

CECO

**hollow
metal
doors**



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CECO STEEL PRODUCTS CORPORATION

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1958

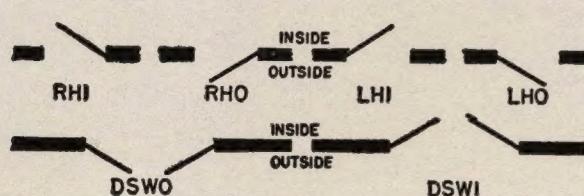
VICTOR IRON WORKS

Hollow Metal Flush Doors • types and sizes

Doors shown on this page are manufactured to order, not carried in stock. Standard 5 1/2" depth frames are carried in stock in company warehouses.

SINGLE SWING DOORS					DOUBLE SWING DOORS						
DESIGN	TYPE	DOOR OPENING		GLASS SIZE	DESIGN	TYPE	DOOR OPENING		GLASS SIZE		
		WIDTH	HEIGHT	WIDTH			WIDTH	HEIGHT	WIDTH	HEIGHT	
G	F-2668G	2'-6"	6'-8"	19 1/2"	29 1/8"	G	F-5068G	5'-0"	6'-8"	19 1/2"	29 1/8"
	F-2868G	2'-8"	6'-8"	21 1/2"	29 1/8"		F-5468G	5'-4"	6'-8"	21 1/2"	29 1/8"
	F-3068G	3'-0"	6'-8"	25 1/2"	29 1/8"		F-6068G	6'-0"	6'-8"	25 1/2"	29 1/8"
	F-3468G	3'-4"	6'-8"	29 1/2"	29 1/8"		F-6868G	6'-8"	6'-8"	29 1/2"	29 1/8"
	F-2670G	2'-6"	7'-0"	19 1/2"	33 1/8"		F-5070G	5'-0"	7'-0"	19 1/2"	33 1/8"
	F-2870G	2'-8"	7'-0"	21 1/2"	33 1/8"		F-5470G	5'-4"	7'-0"	21 1/2"	33 1/8"
	F-3070G	3'-0"	7'-0"	25 1/2"	33 1/8"		F-6070G	6'-0"	7'-0"	25 1/2"	33 1/8"
	F-3470G	3'-4"	7'-0"	29 1/2"	33 1/8"		F-6870G	6'-8"	7'-0"	29 1/2"	33 1/8"
	F-3870G	3'-8"	7'-0"	33 1/2"	33 1/8"		F-7470G	7'-4"	7'-0"	33 1/2"	33 1/8"
	F-4070G	4'-0"	7'-0"	37 1/2"	33 1/8"		F-8070G	8'-0"	7'-0"	37 1/2"	33 1/8"
G2	F-2668G2	2'-6"	6'-8"	19 1/2"	14 1/8"	G2	F-5068G2	5'-0"	6'-8"	19 1/2"	14 1/8"
	F-2868G2	2'-8"	6'-8"	21 1/2"	14 1/8"		F-5468G2	5'-4"	6'-8"	21 1/2"	14 1/8"
	F-3068G2	3'-0"	6'-8"	25 1/2"	14 1/8"		F-6068G2	6'-0"	6'-8"	25 1/2"	14 1/8"
	F-2670G2	2'-6"	7'-0"	19 1/2"	16 1/8"		F-5070G2	5'-0"	7'-0"	19 1/2"	16 1/8"
	F-2870G2	2'-8"	7'-0"	21 1/2"	16 1/8"		F-5470G2	5'-4"	7'-0"	21 1/2"	16 1/8"
	F-3070G2	3'-0"	7'-0"	25 1/2"	16 1/8"		F-6070G2	6'-0"	7'-0"	25 1/2"	16 1/8"
G4	F-2668G4	2'-6"	6'-8"	9 3/8"	14 1/8"	G4	F-5068G4	5'-0"	6'-8"	9 3/8"	14 1/8"
	F-2868G4	2'-8"	6'-8"	10 3/8"	14 1/8"		F-5468G4	5'-4"	6'-8"	10 3/8"	14 1/8"
	F-3068G4	3'-0"	6'-8"	12 3/8"	14 1/8"		F-6068G4	6'-0"	6'-8"	12 3/8"	14 1/8"
	F-3468G4	3'-4"	6'-8"	14 3/8"	14 1/8"		F-6868G4	6'-8"	6'-8"	14 3/8"	14 1/8"
	F-2670G4	2'-6"	7'-0"	9 3/8"	16 1/8"		F-5070G4	5'-0"	7'-0"	9 3/8"	16 1/8"
	F-2870G4	2'-8"	7'-0"	10 3/8"	16 1/8"		F-5470G4	5'-4"	7'-0"	10 3/8"	16 1/8"
	F-3070G4	3'-0"	7'-0"	12 3/8"	16 1/8"		F-6070G4	6'-0"	7'-0"	12 3/8"	16 1/8"
	F-3470G4	3'-4"	7'-0"	14 3/8"	16 1/8"		F-6870G4	6'-8"	7'-0"	14 3/8"	16 1/8"
	F-3870G4	3'-8"	7'-0"	16 3/8"	16 1/8"		F-7470G4	7'-4"	7'-0"	16 3/8"	16 1/8"
	F-4070G4	4'-0"	7'-0"	18 3/8"	16 1/8"		F-8070G4	8'-0"	7'-0"	18 3/8"	16 1/8"
LG	F-3070LG	3'-0"	7'-0"	25 1/2"	52 3/4"	LG	F-6070LG	6'-0"	7'-0"	25 1/2"	52 3/4"
	F-3470LG	3'-4"	7'-0"	29 1/2"	52 3/4"		F-6870LG	6'-8"	7'-0"	29 1/2"	52 3/4"
	F-3870LG	3'-8"	7'-0"	33 1/2"	52 3/4"		F-7470LG	7'-4"	7'-0"	33 1/2"	52 3/4"
FG	F-2868FG	2'-8"	6'-8"	21 1/2"	64 3/4"	FG	F-5468FG	5'-4"	6'-8"	21 1/2"	64 3/4"
	F-3070FG	3'-0"	7'-0"	25 1/2"	68 3/4"		F-6070FG	6'-0"	7'-0"	25 1/2"	68 3/4"
	F-3470FG	3'-4"	7'-0"	29 1/2"	68 3/4"		F-6870FG	6'-8"	7'-0"	29 1/2"	68 3/4"
	F-3870FG	3'-8"	7'-0"	33 1/2"	68 3/4"		F-7470FG	7'-4"	7'-0"	33 1/2"	68 3/4"
M	F-2068M	2'-0"	6'-8"	FULL METAL PANEL		M	F-4068M	4'-0"	6'-8"	FULL METAL PANEL	
	F-2668M	2'-6"	6'-8"				F-5068M	5'-0"	6'-8"		
	F-2868M	2'-8"	6'-8"				F-5468M	5'-4"	6'-8"		
	F-3068M	3'-0"	6'-8"				F-6068M	6'-0"	6'-8"		
	F-3468M	3'-4"	6'-8"				F-6868M	6'-8"	6'-8"		
	F-2070M	2'-0"	7'-0"				F-4070M	4'-0"	7'-0"		
	F-2670M	2'-6"	7'-0"				F-5070M	5'-0"	7'-0"		
	F-2870M	2'-8"	7'-0"				F-5470M	5'-4"	7'-0"		
	F-3070M	3'-0"	7'-0"				F-6070M	6'-0"	7'-0"		
	F-3470M	3'-4"	7'-0"				F-6870M	6'-8"	7'-0"		
SG	F-3470M	3'-8"	7'-0"				F-7470M	7'-4"	7'-0"		
	F-3870M	3'-8"	7'-0"				F-8070M	8'-0"	7'-0"		
	F-4070M	4'-0"	7'-0"				F-5468SG	5'-4"	6'-8"	6 1/2"	64 3/4"
	F-2868SG	2'-8"	6'-8"	6 1/2"	64 3/4"		F-6070SG	6'-0"	7'-0"	6 1/2"	68 3/4"
DSWO	F-3070SG	3'-0"	7'-0"	6 1/2"	68 3/4"	DSWI	F-6870SG	6'-8"	7'-0"	6 1/2"	68 3/4"
	F-3470SG	3'-4"	7'-0"	6 1/2"	68 3/4"		F-7470SG	7'-4"	7'-0"	6 1/2"	68 3/4"
	F-3870SG	3'-8"	7'-0"	6 1/2"	68 3/4"		F-8070SG	8'-0"	7'-0"	6 1/2"	68 3/4"

HAND AND SWING DIAGRAMS



When ordering doors and frames always give complete information, including type, size, style and hand and swing. For example: F-3070-G2-RHO or F-6070-LG-DSWI-BA.

When ordering double doors indicate swing of door leaves and hand of active leaf. For example:

DSWI-RA—Double swing in right hand leaf active.

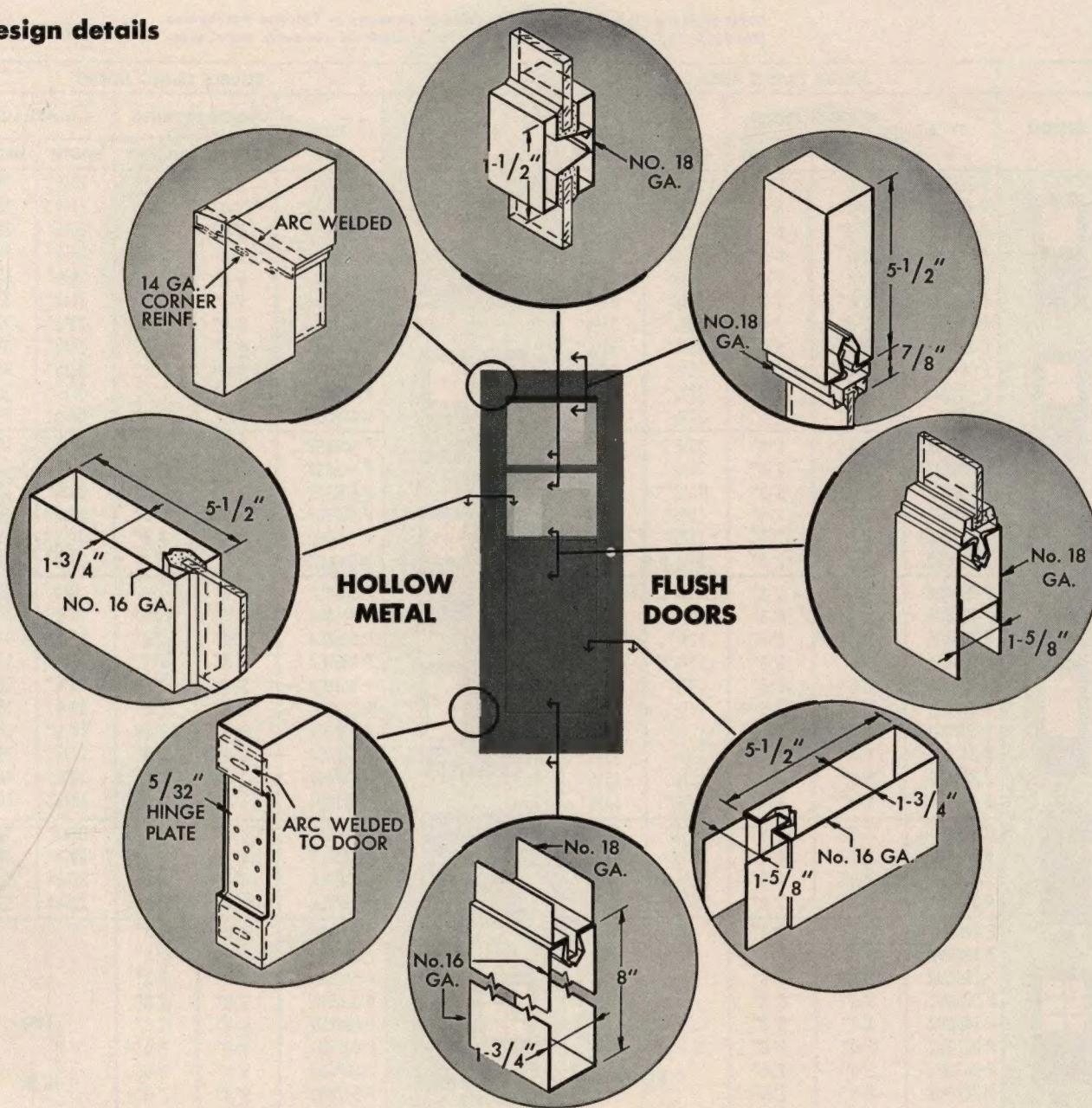
DSWO-LA—Double swing out left hand leaf active.

DSWO-BA—Double swing out both leaves active.

When both leaves are active, indicate if no astragal or split astragal is required. Split astragal used only on doors with both leaves active.

See page 23-d for astragals.

design details



Hollow Metal Flush Doors are fabricated from No. 16 gauge steel sheets. Stiles, and top rails are $5\frac{1}{2}'' \times 1\frac{3}{4}''$. Bottom rails are $8'' \times 1\frac{3}{4}''$. Metal panels are No. 18 gauge steel sheet and have Z stiffeners. Interiors of metal panels are undercoated with sound deadening material.

Lock stiles are formed to allow $\frac{1}{8}''$ operating clearance.

Ceco Doors and Frames are die cut and reinforced for Cylindrical-type locksets or for Ceco Mortise-type locksets; no fillers or universal type strikes are used.

Bottom rails have weep holes for elimination of interior condensation.

Corners are mitred, reinforced, face welded, and ground smooth.

Hinges are mortised and reinforced.

Moldings, glazing beads, muntins and glazing stops are No. 18 gauge roll formed steel.

Glazing beads and muntin glazing stops are always on the inside of the door and are held in place with Phillips-head screws.

Doors are bonderized and painted with one coat of zinc chromate rust-resisting primer, neutral grey in color.

UNDERWRITERS LABELLED DOORS AND FRAMES

Flush Hollow Metal Doors and Frames are furnished with Underwriters Laboratories $1\frac{1}{2}$ hour label in single swing size F-3870-M or smaller, double swing size F-7470 or smaller.

$1\frac{1}{2}$ hour labelled doors and frames can be used in 1 hour and $\frac{3}{4}$ hour locations. Labelled doors are furnished only in M type with $10'' \times 10''$ vision panel No. 4811 optional.

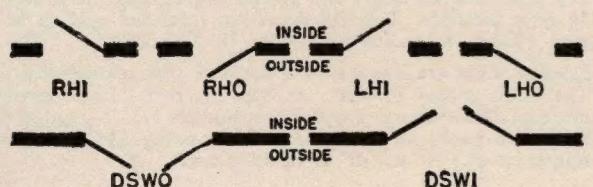
Labelled doors are identical in appearance with non-labelled doors. The same gauges of steel are used in both. Ceco tested and obtained Underwriters approval to furnish No. 16 gauge frame heads and jambs for single and double swing $1\frac{1}{2}$ hour labelled frames up to $7'-4'' \times 7'-0''$ in opening size.

Hollow Metal Panel Doors • types and sizes

Doors shown on this page carried in stock in company or Chicago warehouses.
Standard 5½" depth frames are carried in stock in company warehouses.

		SINGLE SWING DOORS				DOUBLE SWING DOORS					
DESIGN	TYPE	DOOR OPENING		GLASS SIZE		DESIGN	TYPE	DOOR OPENING		GLASS SIZE	
		WIDTH	HEIGHT	WIDTH	HEIGHT			WIDTH	HEIGHT	WIDTH	HEIGHT
G	P-2668G	2'-6"	6'-8"	19½"	29½"	G	P-5068G	5'-0"	6'-8"	19½"	29½"
	P-2868G	2'-8"	6'-8"	21½"	29½"		P-5468G	5'-4"	6'-8"	21½"	29½"
	P-3068G	3'-0"	6'-8"	25½"	29½"		P-6068G	6'-0"	6'-8"	25½"	29½"
	P-3468G	3'-4"	6'-8"	29½"	29½"		P-6868G	6'-8"	6'-8"	29½"	29½"
	P-2670G	2'-6"	7'-0"	19½"	33½"		P-5070G	5'-0"	7'-0"	19½"	33½"
	P-2870G	2'-8"	7'-0"	21½"	33½"		P-5470G	5'-4"	7'-0"	21½"	33½"
	P-3070G	3'-0"	7'-0"	25½"	33½"		P-6070G	6'-0"	7'-0"	25½"	33½"
	P-3470G	3'-4"	7'-0"	29½"	33½"		P-6870G	6'-8"	7'-0"	29½"	33½"
	P-3870G	3'-8"	7'-0"	33½"	33½"		P-7470G	7'-4"	7'-0"	33½"	33½"
	P-4070G	4'-0"	7'-0"	37½"	33½"		P-8070G	8'-0"	7'-0"	37½"	33½"
	P-4080G	4'-0"	8'-0"	37½"	45½"		P-8080G	8'-0"	8'-0"	37½"	45½"
G2	P-2668G2	2'-6"	6'-8"	19½"	14½"	G2	P-5068G2	5'-0"	6'-8"	19½"	14½"
	P-2868G2	2'-8"	6'-8"	21½"	14½"		P-5468G2	5'-4"	6'-8"	21½"	14½"
	P-3068G2	3'-0"	6'-8"	25½"	14½"		P-6068G2	6'-0"	6'-8"	25½"	14½"
	P-2670G2	2'-6"	7'-0"	19½"	16½"		P-5070G2	5'-0"	7'-0"	19½"	16½"
	P-2870G2	2'-8"	7'-0"	21½"	16½"		P-5470G2	5'-4"	7'-0"	21½"	16½"
	P-3070G2	3'-0"	7'-0"	25½"	16½"		P-6070G2	6'-0"	7'-0"	25½"	16½"
G4	P-2668G4	2'-6"	6'-8"	9¾"	14½"	G4	P-5068G4	5'-0"	6'-8"	9¾"	14½"
	P-2868G4	2'-8"	6'-8"	10¾"	14½"		P-5468G4	5'-4"	6'-8"	10¾"	14½"
	P-3068G4	3'-0"	6'-8"	12¾"	14½"		P-6068G4	6'-0"	6'-8"	12¾"	14½"
	P-3468G4	3'-4"	6'-8"	14¾"	14½"		P-6868G4	6'-8"	6'-8"	14¾"	14½"
	P-2670G4	2'-6"	7'-0"	9¾"	16½"		P-5070G4	5'-0"	7'-0"	9¾"	16½"
	P-2870G4	2'-8"	7'-0"	10¾"	16½"		P-5470G4	5'-4"	7'-0"	10¾"	16½"
	P-3070G4	3'-0"	7'-0"	12¾"	16½"		P-6070G4	6'-0"	7'-0"	12¾"	16½"
	P-3470G4	3'-4"	7'-0"	14¾"	16½"		P-6870G4	6'-8"	7'-0"	14¾"	16½"
	P-3870G4	3'-8"	7'-0"	16¾"	16½"		P-7470G4	7'-4"	7'-0"	16¾"	16½"
	P-4070G4	4'-0"	7'-0"	18¾"	16½"		P-8070G4	8'-0"	7'-0"	18¾"	16½"
	P-3068LG	3'-0"	6'-8"	25½"	48¾"	LG	P-6068LG	6'-0"	6'-8"	25½"	48¾"
	P-3468LG	3'-4"	6'-8"	29½"	48¾"		P-6868LG	6'-8"	6'-8"	29½"	48¾"
	P-3070LG	3'-0"	7'-0"	25½"	52¾"		P-6070LG	6'-0"	7'-0"	25½"	52¾"
	P-3470LG	3'-4"	7'-0"	29½"	52¾"		P-6870LG	6'-8"	7'-0"	29½"	52¾"
LG	P-2068M2	2'-0"	6'-8"	TWO METAL PANELS		M2	P-4068M2	4'-0"	6'-8"	TWO METAL PANELS	
	P-2668M2	2'-6"	6'-8"				P-5068M2	5'-0"	6'-8"		
	P-2868M2	2'-8"	6'-8"				P-5468M2	5'-4"	6'-8"		
	P-3068M2	3'-0"	6'-8"				P-6068M2	6'-0"	6'-8"		
	P-3468M2	3'-4"	6'-8"				P-6868M2	6'-8"	6'-8"		
	P-2070M2	2'-0"	7'-0"				P-4070M2	4'-0"	7'-0"		
	P-2670M2	2'-6"	7'-0"				P-5070M2	5'-0"	7'-0"		
	P-2870M2	2'-8"	7'-0"				P-5470M2	5'-4"	7'-0"		
	P-3070M2	3'-0"	7'-0"				P-6070M2	6'-0"	7'-0"		
	P-3470M2	3'-4"	7'-0"				P-6870M2	6'-8"	7'-0"		
	P-3870M2	3'-8"	7'-0"				P-7470M2	7'-4"	7'-0"		
	P-4070M2	4'-0"	7'-0"				P-8070M2	8'-0"	7'-0"		
G12	P-4080M2	4'-0"	8'-0"	THREE PANEL		G12	P-8080M2	8'-0"	8'-0"	THREE PANEL	
	P-50100M3	5'-0"	10'-0"				P-100100M3	10'-0"	10'-0"		
	P-4080G6	4'-0"	8'-0"	18¾"	14½"		P-8080G6	8'-0"	8'-0"	18¾"	14½"
	P-50100G12	5'-0"	10'-0"	16"	14½"		P-100100G12	10'-0"	10'-0"	16"	14½"

HAND AND SWING DIAGRAMS



When ordering doors and frames always give complete information including type, size, style and hand and swing. For example: P-3070-G2-RHO or P-6070-LG-DSWI-BA.

When ordering doors and frames always give complete information including hand of active leaf. For example:

DSWI-RA—Double swing in right hand leaf active.

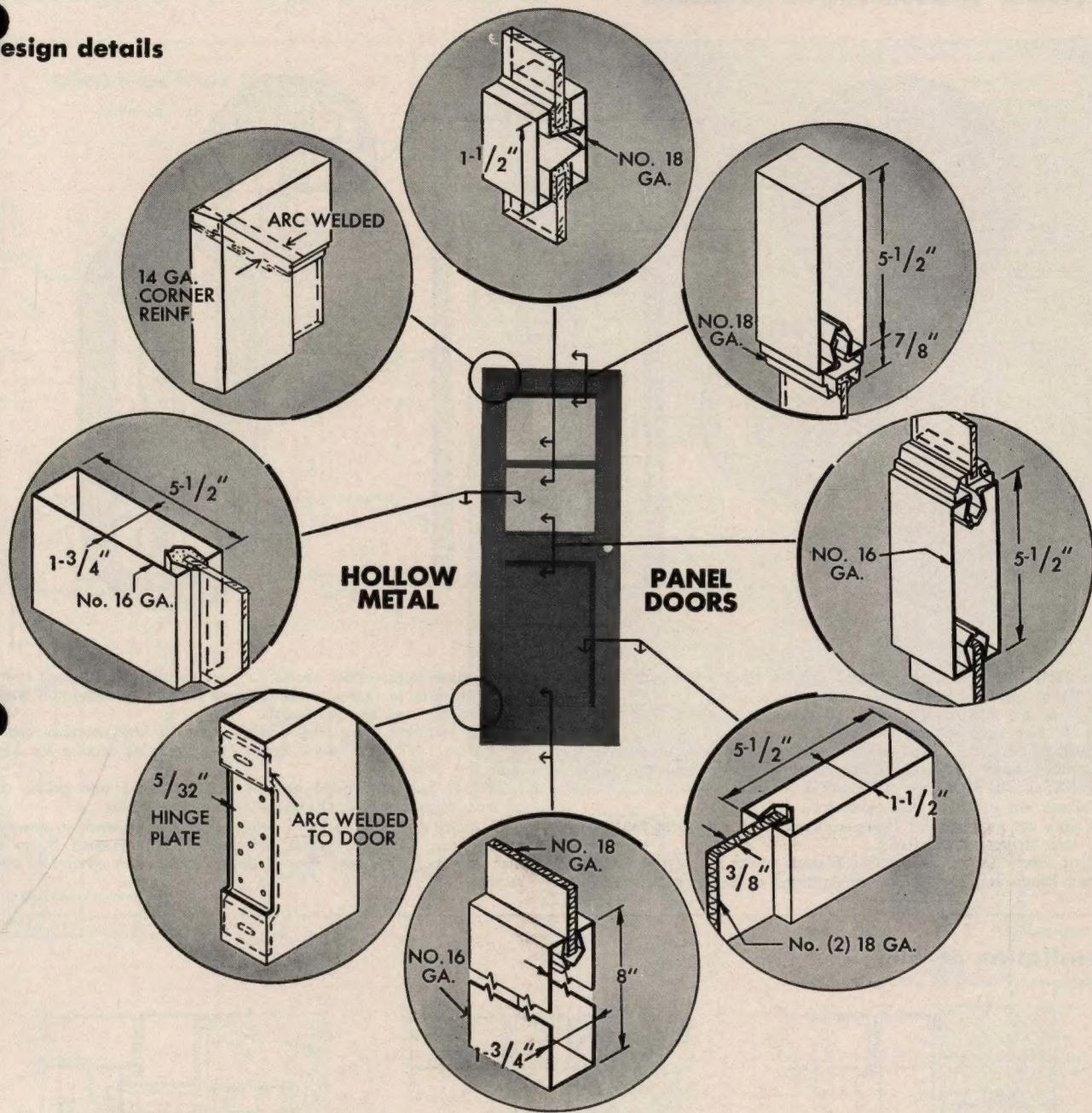
DSWO-LA—Double swing out left hand leaf active.

DSWO-BA—Double swing out both leaves active.

When both leaves are active, indicate if no astragal or split astragal is required.

See page 23-d for astragals.

design details



Panel

Hollow Metal Panel Doors are fabricated from No. 16 gauge steel sheets. Stiles, top rails and center rails are $5\frac{1}{2}'' \times 1\frac{3}{4}''$. Bottom rails are $8'' \times 1\frac{3}{4}''$.

Metal panels are two No. 18 gauge steel sheets with insulating filler between sheets. Thickness of panel $\frac{3}{8}''$.

Lock stiles are formed to allow $\frac{1}{8}''$ operating clearance.

Ceco Doors and Frames are die cut and reinforced for Cylindrical-type locksets or for Ceco Mortise-type locksets; no universal type strikes are used.

Corners are mitred, reinforced, face welded and ground smooth. Center rails are face welded to stiles and ground smooth.

Hinges are mortised and reinforced.

Moldings, glazing beads, muntins and glazing stops are No. 18 gauge roll formed steel.

Glazing beads and muntin stops are always on the inside of the door and are held in place with Phillips-head screws.

Doors are bonderized and painted with one coat of zinc chromate rust-resisting primer, neutral grey in color.

Hot dipped galvanized doors can be furnished on special order.

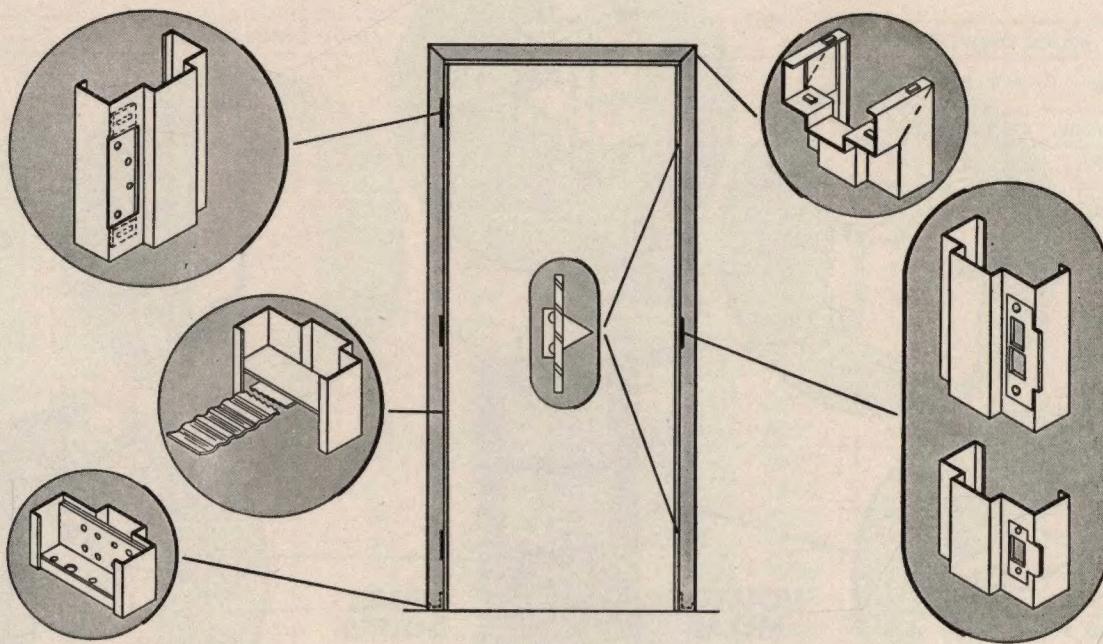
UNDERWRITERS LABELLED DOORS AND FRAMES

Panel Hollow Metal Doors and Frames are furnished with Underwriters Laboratories $1\frac{1}{2}$ hour label in single swing size P-3870-M2 or smaller, double swing size P-7470-M2 or smaller.

$1\frac{1}{2}$ hour labelled doors and frames can be used in 1 hour and $\frac{3}{4}$ hour locations. Labelled doors are furnished only in M2 type with $10'' \times 10''$ vision panel No. 4801 optional.

Labelled doors are identical in appearance with non-labelled doors. The same gauges of steel are used in both. Ceco tested and obtained Underwriters approval to furnish No. 16 gauge frame heads and jambs for single and double swing $1\frac{1}{2}$ hour labelled frames up to $7'-4'' \times 7'-0''$ in opening size.

Hollow Metal Door Frames



Ceco Hollow Metal Door Frames can be used with both Flush and Panel type doors.

Frames are formed from No. 16 gauge steel sheet $5\frac{1}{2}$ " deep with 2" face and $\frac{3}{8}$ " integral stop.

Head corners are mitred for best possible appearance. Standard size frames have die cut mitred corners with steel tabs for quick assembly. Frames are shipped knocked-down.

Frames are mortised and reinforced for hinges.

Frames are mortised for cylindrical type lock strikes or mortised type lock strikes as required.

Dust boxes (sometimes called plaster guards) are provided to protect hinge and lock strike preparations during installation.

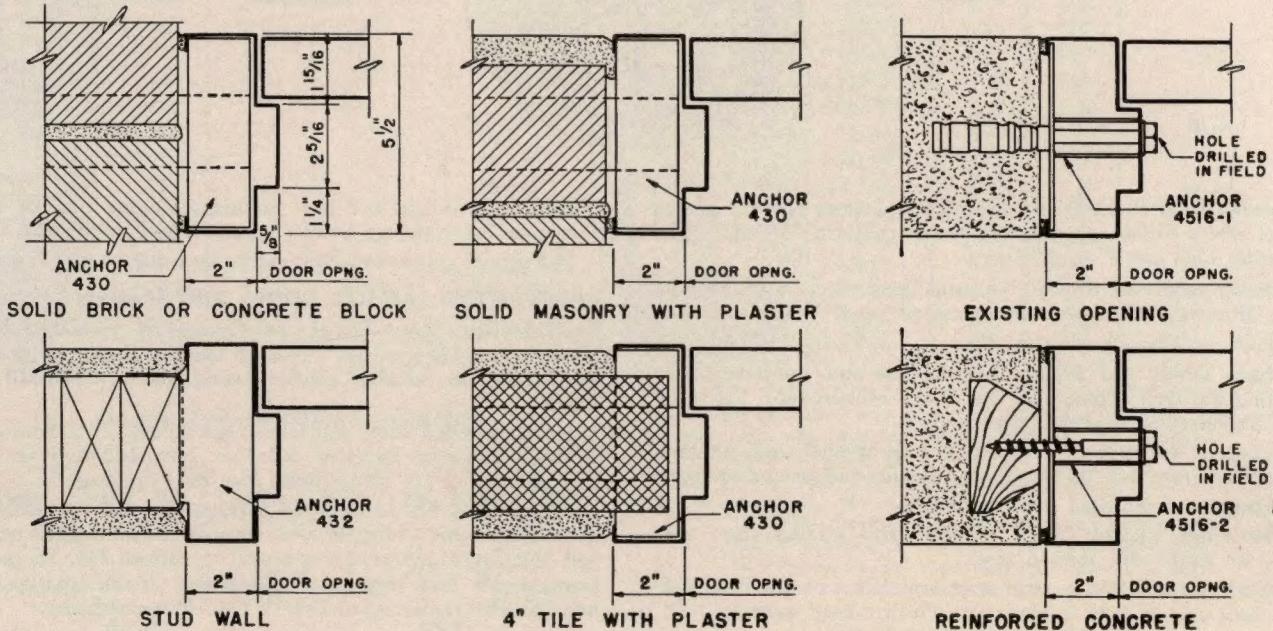
Air cushion gum rubber mutes (2) are furnished with each frame. Six adjustable masonry anchors are furnished with each frame, three to be used on each jamb.

Ceco standard door frames with standard lock mortises can be used with $1\frac{3}{4}$ " thick wood doors (see hardware section for hardware for wood doors).

Frames are bonderized and flow-coat painted one prime coat of rust-inhibitive zinc chromate neutral grey color.

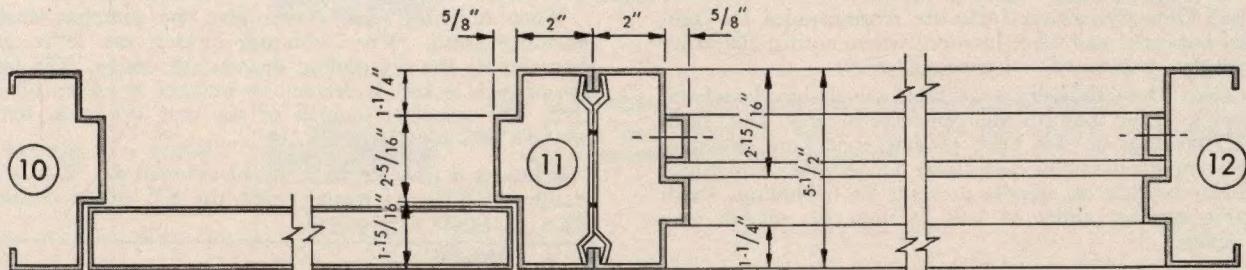
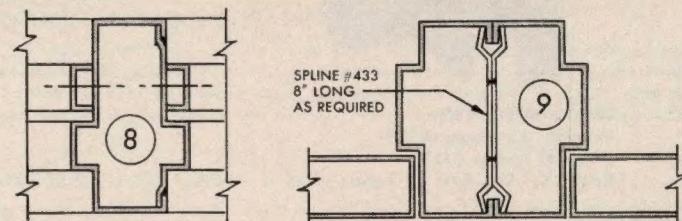
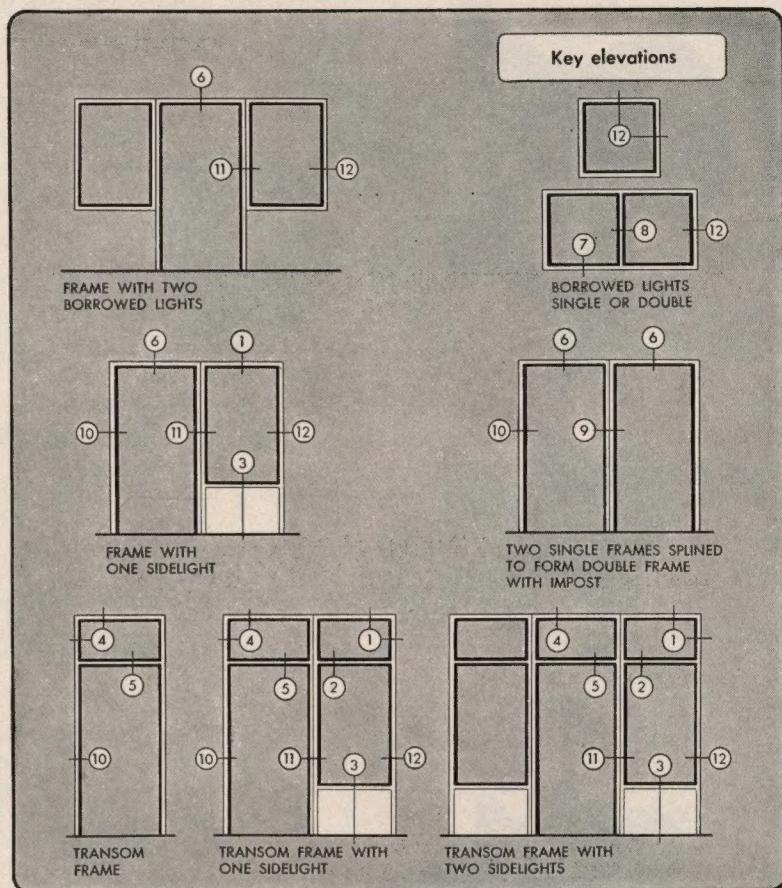
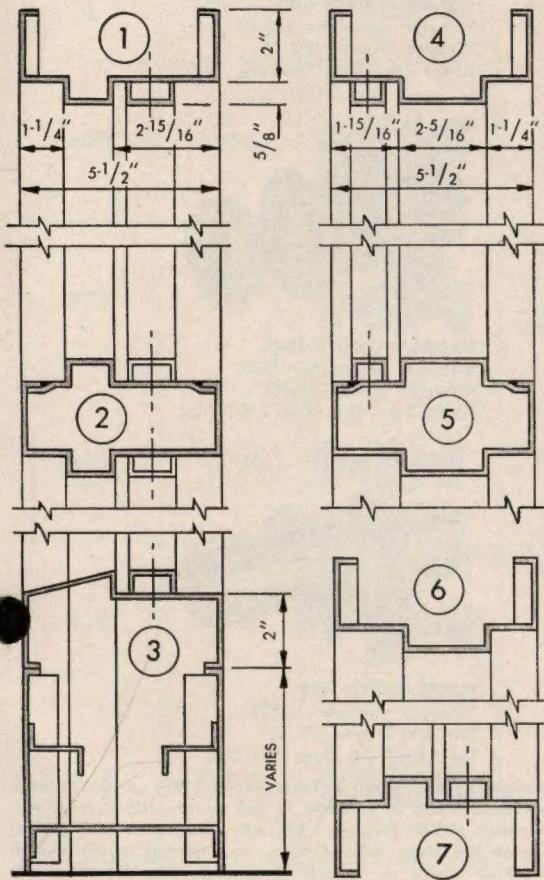
Standard door frames $5\frac{1}{2}$ " depth are carried in stock in company warehouses. Transom frames, sidelights, and borrowed lights are manufactured to order. Special depth frames are available when required.

installation details



Sidelights • Borrowed Lights • Transom Frames

construction details

scale $3/16'' = 1'-0''$ 

Ceco Transom Frames, Sidelights and Borrowed Lights are designed to furnish completely welded-up units, with all corners welded and ground smooth, that can be easily and accurately installed adjacent to each other to obtain the best possible finished appearance and strength.

Rooms within rooms or partitions can be built using Ceco Transom Frames and Borrowed Lights to the ceiling with masonry wall below the Borrowed Lights.

TRANSOM DOOR FRAMES are fabricated on order for standard size doors to any height up to 14'-0", and any depth to meet job requirements. Standard 5 1/2" depth is lower in cost than special depths. Can be furnished in fixed glazed, fixed or ventilated sash or with metal panels.

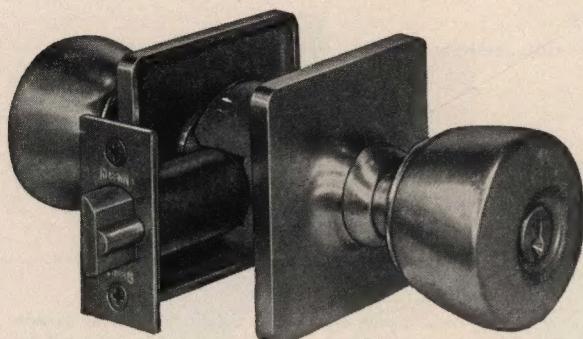
SIDELIGHTS are fabricated on order to fit adjacent to standard or transom frames to widths up to 8'-0" and only in 5 1/2" depth. Can be furnished with muntins or horizontal impost (Section 5) as required. Bottom panel furnished to match glass heights in Doors (FG, LG, G). Sidelights with panels to height of glass in G Doors furnished only up to 4'-0" in width. Multiple sidelights can be used adjacent to each other.

BORROWED LIGHTS are fabricated to order in any size and depth to meet job requirements. Standard 5 1/2" depth to match standard frames are lower in cost than special depths. Borrowed Lights can be used in multiples for long runs and can be furnished with corner plates where required.

Borrowed Lights used in exterior walls or in exterior entrances, with masonry below (Short Sidelight) or clear to floor can be furnished with sill section as used in Sidelights (Section 3).

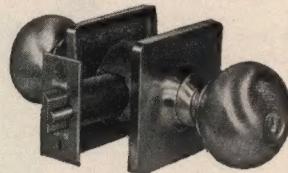
Frames

Heavy Duty Cylindrical Locksets



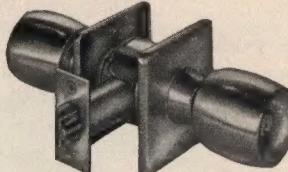
***COSMIC-PREFIX CWS**
Wrought Aluminum (US28)
Wrought Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose 3" Square

FLARE-PREFIX (FCS)
Cast Aluminum (US28)
Cast Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose 3" Square



HADDAM-PREFIX HWS
Wrought Aluminum (US28)
Wrought Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose 3" Square

BRISTOL-PREFIX BCS
Cast Aluminum (US28)
Cast Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose 3" Square



TEMPO-PREFIX TWS
Wrought Aluminum (US28)
Wrought Bronze (US10)
Knob Dia. $2\frac{3}{16}$ " Rose 3" Square

COMET-PREFIX CCS
Cast Aluminum (US28)
Cast Bronze (US10)
Knob Dia. $2\frac{3}{16}$ " Rose 3" Square



COSMIC-PREFIX CWR
Wrought Aluminum (US28)
Wrought Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose $2\frac{5}{8}$ " Dia.

FLARE-PREFIX FCR
Cast Aluminum (US28)
Cast Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose $2\frac{5}{8}$ " Dia.



HADDAM-PREFIX HWR
Wrought Aluminum (US28)
Wrought Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose $2\frac{5}{8}$ " Dia.

BRISTOL-PREFIX BCR
Cast Aluminum (US28)
Cast Bronze (US10)
Knobs $2\frac{3}{16}$ " Dia. Rose $2\frac{5}{8}$ " Dia.



TEMPO-PREFIX TWR
Wrought Aluminum (US28)
Wrought Bronze (US10)
Knob Dia. $2\frac{3}{16}$ " Rose $2\frac{5}{8}$ " Dia.

COMET-PREFIX CCR
Cast Aluminum (US28)
Cast Bronze (US10)
Knob Dia. $2\frac{3}{16}$ " Rose $2\frac{5}{8}$ " Dia.

GENERAL

Heavy Duty Cylindrical Locksets are recommended for schools, hospitals, commercial, industrial and institutional buildings. Designed for high-frequency locations, and to give long life under hard service. Knob shanks are of seamless tubular design to obtain full torsional strength. Wrought knobs are reinforced to prevent denting and to give strength equivalent to that of cast knobs. Outside roses are tamper proof.

Flare, Bristol and Comet Designs have cast knobs and cast roses. They can be furnished with cast knobs and wrought roses where cost is a factor, yet cast knobs are desired. The prefix to the lock number would then change, for example: Flare Design with cast rose is FCR or FCS. With wrought rose the prefix would be FWR or FWS.

Heavy Duty Cylindrical Locksets fit standard preparation in CECO doors and frames. Backset $2\frac{3}{4}$ " Front $1\frac{1}{8}$ " by $2\frac{1}{4}$ ". Locksets for steel doors are furnished with flat fronts and all machine screws. Locks for wood doors and CECO frames are furnished with bevelled front $\frac{1}{8}$ " by 2 " and with wood screws for lock, machine screws for strikes.

Heavy Duty Cylindrical Locksets can be furnished keyed alike, keyed different or master keyed with Standard Duty Cylindrical Locksets and Heavy Duty Mortised Locksets as required.

These locks can be furnished only with Russell & Erwin key systems. They cannot be keyed to other manufacturers' keys.

They are reversible for any hand and swing of door. Cylinders can be reversed in the field so that key slot is in the correct position for any hand of door.

*Cosmic Wrought Square design locksets (prefix CWS) carried in stock in company warehouses or Chicago in dull bronze (US10) and aluminum (US28) finishes — KD, KA, MKA, and MKD. (Other locks shown on this page, other finishes, and special keying are all manufactured to order — consult CECO district sales office for delivery time.)

ORDERING

When ordering locks always give the complete number including finish. The letter prefix shown under the illustrations denotes the design and whether roses are wrought or cast. The design name and letter denotes when knobs are wrought or cast. The prefix letters also denote where the rose is round or square.

The operation of each lockset is denoted by number as shown on page 13-d. The complete number of any one lockset is, for example:

CWS - 440KA - US28

If lockset is required to be keyed different the KA would change to KD if master keyed the KA would change to MKA or MKD as required.

FINISHES

US28—Alumilited Satin Finish on Aluminum
US10—Dull Bronze Finish on Bronze
US26—Polished Chrome Plate on Brass
US26D—Dull Chrome Plate on Brass

Split finishes can be furnished on order. Always give hand and swing of door and finish required on outside so that finish of strike will match outside trim. When locks with keys and/or buttons are used with split finishes, state which side gets which finish. For example:

CWS - 440 KD - US28 key side—US26 button side for LHI Door

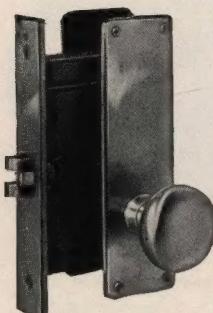
In this example the strike would be finished in US26.

All locksets and latchsets shown on this page can be used with Underwriters Labelled Doors except No. H-440-58.

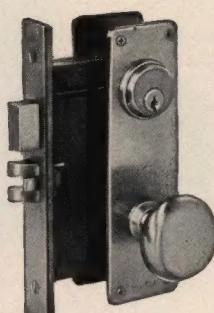
CECO NUMBER	GOV. NUMBER	SILHOUETTE	OPERATION
410 *	161-N		FOR PASSAGE DOORS Latch bolt by knob either side. Each knob always free.
414	161-NX		FOR EXIT DOORS Latch bolt by knob inside only. Inside knob always free. Outside knob fixed. Dead locking latch.
420 *	161-L		FOR BATHROOM Latch bolt by knob each side. Inside knob always free. Push button dead locks outside knob. Push button released by turning inside knob or closing door . . . also released by emergency key through outside knob. Stocked in split finish US10/US26 and US28/US26.
422 *	161-P		FOR BEDROOM AND INNER OFFICE DOORS Latch bolt by knob either side. Push button dead locks outside knob. Inside knob always free. Turning inner knob or closing door releases push button. Dead locking latch.
426	161-Q		FOR EXIT DOORS Latch bolt by knob either side. Turn button locks or unlocks outside knob. Inside knob always free. Dead locking latch.
428	161-M		FOR COMMUNICATING HOTEL OR OFFICE DOORS Latch bolt by knob either side. Turn button in either knob locks or unlocks opposite knob. Dead locking latch. To prevent accidental lockout, this lock should not be used on doors between rooms which have no other entrance.
433EM	161-H		FOR HOTEL CORRIDOR DOORS Latch bolt by key only outside and knob inside. Outside knob always rigid. Push button shuts off all keys except emergency key and throws out visual occupancy indicator in face of cylinder. Either closing door or operating inside knob will release the shutout mechanism and retract the visual occupancy indicator unless button has been turned with spanner key fixing it in locked position.
440 *	161-A		FOR FRONT, REAR AND OFFICE DOORS Latch bolt by knob each side. Inside knob always free. Turn button dead locks outside knob. Key retracts latch bolt when outside knob is locked. Dead locking latch.
440-58 *	161-R		FOR CLASSROOM, VESTIBULE AND UTILITY ROOM DOORS Latch bolt by knob either side. Inside knob always free. Outside knob dead locked by key in outside knob. Dead locking latch.
H440-58 *	NONE		FOR CLASSROOM, VESTIBULE AND UTILITY ROOM DOORS WITH LATCH HOLD-BACK Same as 440-58 but may be locked with bolt in retracted position.
446	161-B		FOR OFFICE DOORS Latch bolt by knob each side. Push button deadlocks outside knob. Inside knob always free. Turning inside knob releases push button. Key retracts latch bolt and releases push button. Dead locking latch. Closing door does not release push button.
446-12 *	161-C		FOR APARTMENT, OFFICE BUILDING AND CORRIDOR DOORS Latch bolt by knob each side. Inside knob always free. Outside knob dead locked by key in inside knob. Key in outside knob retracts latch bolt when outside knob is locked. Dead locking latch.
448-12	161-G		FOR ENTRANCE AND COMMUNICATING DOORS Latch bolt by knob either side except when both knobs are locked simultaneously by key in either knob. When both knobs are locked from either side, key from either side will unlock both knobs. Dead locking latch.
450-12	161-F		CYLINDER COMMUNICATING HOTEL OR OFFICE DOORS Latch bolt by knob either side. Key in each knob locks or unlocks opposite knob. Dead locking latch. To prevent accidental lockout, this lock should not be used on doors between rooms which have no other entrance.
452 *	161-D		FOR UTILITY ROOM, STOREROOM AND EXIT DOORS Latch bolt by inside knob only. Outside knob fixed. Latch bolt may be retracted by key in cylinder in outside knob. Dead locking latch.
452-12	161-W		FIXED KNOB LOCK FOR PASSAGE DOORS Latch bolt by key from either side. Both knobs fixed. Dead locking latch.
453	161-T		FOR DORMITORY BEDROOMS AND PUBLIC RESTROOM DOORS Latch bolt by knob either side. Inside knob always free. Push button deadlocks outside knob. Turning inside knob or closing door releases push button. Key releases push button and unlocks outside knob. Key in outside knob can also be used to lock outside knob. Dead locking latch.
456	161-U		FOR COMMUNICATING DOORS Latch bolt by knob either side. Pushing in button in inside knob locks outside knob. Locking button released by key from outside, knob from inside or closing door. Both knobs locked by key in outside knob. Dead locking latch.
456-12	161-S		FOR COMMUNICATING DOORS Latch bolt by knob either side except when key in either knob locks its own knob only. Dead locking latch.

*These locksets carried in company warehouses or Chicago stocks in Cosmic Wrought Square design (prefix CWS) in dull bronze (US10) and aluminized aluminum (US28) finishes — KD, KA, MKA, or MKD. (Other locks shown on this page, other finishes, and special keying are all manufactured to order — consult Ceco district sales office for delivery time.)

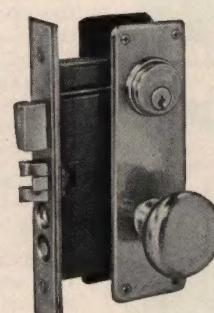
Heavy Duty Mortise Locksets



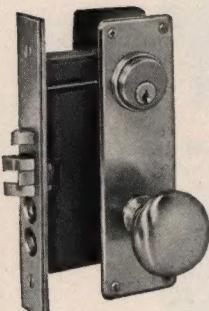
No. 5110



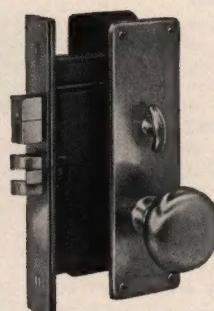
No. 5211



No. 5221



No. 5311



No. 5231



No. 1500



No. 5241

GENERAL

Ceco Mortised Locksets are heavy duty commercial grade. Russell & Erwin "Ten Strike" 2000 series, Federal Specifications Series 86, and should not be compared to standard or lighter grades of mortised locksets.

All latch bolts are anti-friction type for easy closing operation and long life.

Doors and frames are accurately die cut and reinforced for rigid attachment of locks and strikes.

All locksets are reversible and interchangeable in the standard lock mortise.

These locksets can be used with 1 3/4" wood doors and Ceco metal frames. The adjustable bevel front permits use of the lock with the front flat for Ceco Hollow Metal Doors, or with the front bevelled for 1 3/4" wood doors.

Locksets for Ceco Hollow Metal Doors are furnished with machine screws. Locksets for wood doors are furnished with wood screws for lockset and machine screws for strike.

KEYING

All Heavy Duty Locksets use single cam, ball-bearing pin tumblers, cast bronze 1 1/4" long 1.153" 32 U. S. thread. Furnished with two keys for each cylinder. Cylinders by other lock manufacturers with the same thread can be used with Ceco Mortised locks, which are furnished with or without key cylinders. All locks take cylinders with cloverleaf cams, except lockset No. 5321 which takes key cylinder with standard cam.

Key cylinders are furnished Keyed Alike (KA) or Keyed Different (KD) or Master-Keyed as required.

When locks must be keyed to an existing masterkey system other than Ceco, cylinders must be obtained from the manufacturer and Ceco locks will be furnished without cylinders.

FINISHES

US28—Alumilited Aluminum

US10—Dull Bronze

US26D—Dull Chrome

US26—Polished Chrome

ORDERING

When ordering Mortise Locksets always give the complete number, which is the operation number shown on page 15, followed by the keying information, followed by the finish. For example: 5211-KD-US28.

When ordering locks without key cylinders the number should read 5211-NC-US28.

When laying out hardware schedules for jobs with key alike, key different and master keys use the listing 5211-US28 and furnish keying list or diagram.

UNDERWRITERS DOORS

All locksets and latchsets shown on this page can be used with Underwriters labelled doors except the No. 1500 surface latch.

Locks shown on this page are the most popular functions and meet most occupational requirements. Other functions in the Russwin Heavy Duty "Ten Strike" 2000 Series (Rockford Design) will fit accurately into the standard mortise lock preparation. Consult current Russwin catalogues for other functions of the Russwin Heavy Duty "Ten Strike" 2000 Series.

SILHOUETTE		OPERATIONS	
		1500 SURFACE LATCH Latch bar operated by lever handles both sides. Padlock eyes in latch and strike. Padlock not furnished. Reversible. Fits doors and frames prepared for cylindrical locks only. Case with latch bar and padlock eyes mounted on hinge side of door. Case, lever handles, and escutcheon Cast Brass. Steel latch bar and strike.	
Gov. Number Ceco Number	NONE * 1500	86N-4 * 5110	
		5110 FOR DOORS NOT REQUIRING LOCKS Latch Bolt operated by knobs both sides. No locking feature. Used to latch door closed.	
Gov. Number Ceco Number			
		5211 FOR ROOMS WITH ONE DOOR AND GENERAL USE Latch Bolt operated by knobs both sides, dead-bolt operated by key outside, by thumb turn inside.	
Gov. Number Ceco Number	86B-4 * 5211	86C-4 * 5212	
		5212 FOR DOORS REQUIRING LOCKING BOTH SIDES Latch Bolt operated by knobs both sides. Dead-bolt operated by key cylinder both sides.	
Gov. Number Ceco Number	86A-4 * 5221	NONE * 5222	
		5221 FOR OFFICES, FRONT DOORS AND ENTRANCES Latch bolt operated by knobs outside when stops are not set, by key when stops are set, inside by knob. Dead-bolt operated outside by key, inside by thumb turn.	
Gov. Number Ceco Number			
		5222 FOR OFFICES AND ENTRANCES Latch bolt operated outside by knob when stops are not set, by key when stops are set, inside by knob. Dead-bolt operated by key both sides.	
Gov. Number Ceco Number			
		5311 FOR OFFICES, EXITS AND STAIR WELLS Latch bolt operated outside when stops are not set, by key when stops are set. Latch bolt by inside knob at all times. Cannot be locked from inside. Auxiliary bolt deadlocks latch bolt.	
Gov. Number Ceco Number	86E-4 * 5311	86J-4 * 5321	
		5321 FOR SCHOOL CLASSROOM AND EXITS Latch bolt operated outside by knob when interior stops are not set by key, by key when stops are set. Latch bolt operated inside by knob at all times. Cannot be locked from inside. Auxiliary bolt deadlocks latch.	
Gov. Number Ceco Number			
		5231 FOR COMMUNICATING DOORS Latch bolt by knob either side when thumb turns are inactive. Split dead-bolt by thumb turn opposite sides. Can be locked from either side. Cannot be unlocked from opposite side.	
Gov. Number Ceco Number	86M-4 * 5231		
		5241 FOR ENTRANCE DOORS Latch bolt by thumb piece both sides, dead-bolt operated by key cylinder outside. Cylinder can be placed on inside if desired.	
Gov. Number Ceco Number			
		5242 FOR ENTRANCE DOORS Latch bolt by thumb piece both sides, dead-bolt operated by key cylinder both sides. Door can be locked from either side.	
Gov. Number Ceco Number	NONE * 5241	NONE * 5242	

*Locksets carried in company warehouses or Chicago stocks in dull bronze (US10) and aluminized aluminum (US28) finishes — KD, KA, MKD, or MKA.

Heavy Duty Mortise Dead-Bolt Locksets

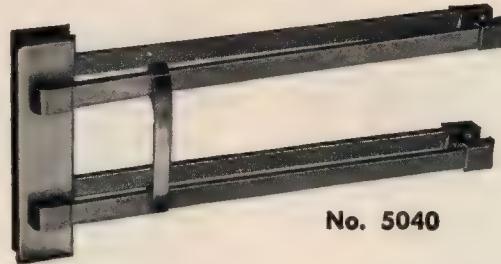
PUSH BAR AND PULL BAR DEAD-BOLT LOCKSET



No. 5441

This lockset is used on main entrances, is generally used on FG or LG type doors. Push Bars protect the long glass against accidental breakage and prevent marring by hands.

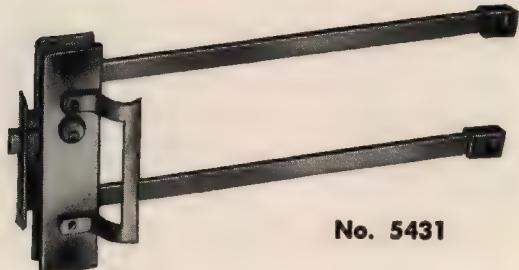
PUSH BAR AND PULL BAR SET



No. 5040

These bars are used on vestibule doors and in similar entrance locations where no lock is required. On double entrance doors use this set on one leaf with No. 5441 lockset on the other leaf.

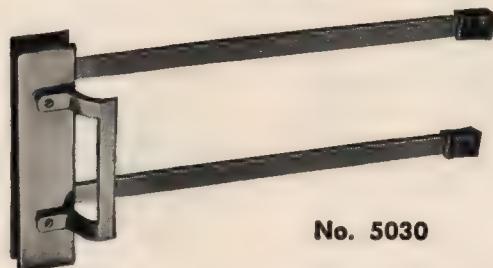
PULL HANDLE AND PUSH BAR DEAD-BOLT LOCKSET



No. 5431

This lockset is used on main entrances and is generally used with FG and LG type doors. This set is particularly offered for swing out FG or LG doors when full area of glass is desired for architectural effect, signs, lettering in glass etc.

PULL HANDLE AND PUSH BAR SET



No. 5030

These bars are used on vestibule doors and similar entrance locations where no lock is required. On double entrance doors use this set on one leaf with No. 5431 lockset on the other leaf.

PUSH PLATE AND PULL PLATE



No. 5010

This set used on high frequency doors such as vestibules and locker rooms. On double entrance doors use this set on one leaf with lockset No. 5411 on the other leaf.

PUSH PLATE AND PULL PLATE
DEAD-BOLT LOCKSET



No. 5411

This lockset is used on entrances, locker rooms, and other high frequency doors. This set is designed for good appearance on entrance doors as well as for interior doors.

DEAD-BOLT LOCKSET



No. 5421

This lockset is used on doors normally closed and locked such as meter rooms, transformer vaults and access doors. Do not use door closers with this lock because the door can be opened only by pulling on key when turned in key cylinder.

Heavy Duty Mortise Locksets and Push and Pull Sets shown on this page are furnished in Alumilited Aluminum (US28), Dull Bronze (US10) or Dull Chrome (US26D) plated on Bronze.

All sets fit into standard CECO lock preparation in both doors and frames. Sets without locks are furnished with filler plates for the edge of the door and the strike preparation in the frame of the same material and finish.

Double doors in exterior walls with both leaves active use split astragal No. 4421; in interior walls the astragal can be omitted. Strike No. 555 is used on double doors to take the dead-bolt in the locked position.

When ordering all sets on this page give the complete number. For example: No. 5411-KA-US28. For bar sets also give the door width. For example: No. 5431-30-KA-US28 for a 3'-0" wide door.

SILHOUETTE

OPERATIONS

Gov. Number Ceco Number	NONE *5411
Gov. Number Ceco Number	86P *5421
Gov. Number Ceco Number	NONE *5431
Gov. Number Ceco Number	NONE *5441
Gov. Number Ceco Number	NONE *5040
Gov. Number Ceco Number	NONE *5030
Gov. Number Ceco Number	NONE *5010

5411
ENTRANCES, LOCKER ROOMS

Dead-bolt operated by key outside and by thumb turn inside. Use door closer with this lock. When door is unlocked operation is push and pull.

5412
ENTRANCES, LOCKER ROOMS

Dead-bolt operated by key both sides, use door closer with this lock. When door is unlocked operation is push and pull.

5421
TRANSFORMER VAULTS, METER ROOMS, CLOSETS

Dead-bolt operated by key outside and by thumb turn inside. No latching device. Use of closer not recommended.

5422
ACCESS DOORS AND STOCK ROOM DOORS

Dead-bolt operated by key both sides. Use of door closer not recommended. Door is free swinging when dead-bolt is retracted

5431
ENTRANCE DOORS

Dead-bolt operated by key outside and by thumb turn inside. Use door closer with this lock. When door is unlocked operation is push and pull.

5432
ENTRANCE DOORS

Dead-bolt operated by key both sides, use door closer with this lock. When door is unlocked operation is push and pull.

5441
ENTRANCE DOORS

Dead-bolt operated by key outside and by thumb turn inside. Use door closer with this lock. When door is unlocked operation is push and pull.

5442
ENTRANCE DOORS

Dead-bolt operated by key both sides, use door closer with this lock. When door is unlocked operation is push and pull.

5040
VESTIBULES AND LOCKER ROOMS

Operation push and pull only. No locking or latching device. Door closer must be used.

5030
VESTIBULES AND LOCKER ROOMS

Operation push and pull only. No locking or latching device. Door closer must be used.

5010
VESTIBULES AND LOCKER ROOMS

Operation push and pull only. No locking or latching device. Door closer must be used.

*Locksets carried in company warehouses or Chicago stocks in dull bronze (US10) and aluminized aluminum (US28) finishes—KD, KA, MKD, or MKA. Bars for doors larger than 3470 Leaf size on special order.

Anti-Panic Devices

Mortise, Combination and Vertical Rod devices stocked in Chicago.
Doors prepared for these devices furnished from Chicago. Standard
5½" depth frames prepared for these devices furnished from company
warehouses. Devices for doors larger than 3870 leaf size on special
order. Stocked in Dull Bronze (US10) and Alumilited Aluminum (US28)
finishes.



**SINGLE DOOR
MORTISE DEVICES**



EXIT ONLY
No outside control.

A-10



ENTRANCE AND EXIT

Outside operation by pull handle when latch bolt is retracted. Door closer is required.

A-11



ENTRANCE AND EXIT

Outside operation by pull handle when latch bolt is retracted. By key when latch bolt is not retracted. Door closer is required.

A-12



ENTRANCE AND EXIT

Outside operation by thumb piece, when not locked by key. Key locks thumb piece. Door closer is optional.

A-23



**DOUBLE DOOR
COMBINATION DEVICES**



EXIT ONLY
No outside controls on either leaf. Door closers not required. Use overlapping astragal No. 4411.

A-1030



**ENTRANCE AND EXIT,
ONE LEAF ACTIVE**

Outside operation of active leaf by pull handle when latch bolt is retracted. No outside control on inactive leaf. Door closer required on active leaf, optional on inactive leaf with vertical rod device.



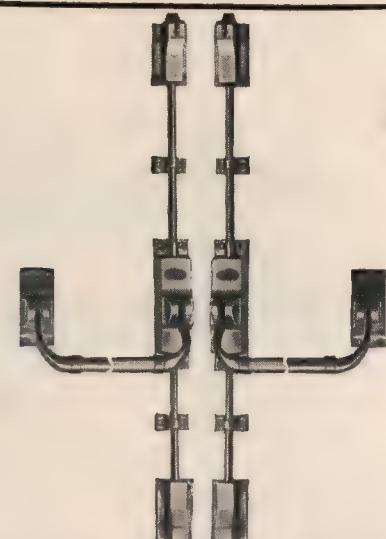
**ENTRANCE AND EXIT,
ONE LEAF ACTIVE**

Outside operation of active leaf by pull handle when latch bolt is retracted. By key when latch bolt is not retracted. No outside control on inactive leaf with vertical rod device. Door closer required on active leaf.



**ENTRANCE AND EXIT,
ONE LEAF ACTIVE**

Outside operation of active leaf by thumb piece when not locked by key. Key locks thumb piece. Closer optional. No outside control on inactive leaf with vertical rod device.



**DOUBLE DOOR
VERTICAL ROD DEVICES**

A-3030

EXIT ONLY
No outside control on either leaf. Door closers not required. Split astragal No. 4421 required on exterior doors.

A-3131

EXIT ONLY
Outside operation of both leaves by pull handle when vertical rods are retracted. Split astragal No. 4421 required on exterior doors. Door closers are required on both leaves.

A-3230

**ENTRANCE AND EXIT,
ONE LEAF ACTIVE**
Outside operation of active leaf by pull handle when vertical rods are retracted. By key and lever handle when latch bolt is not retracted. No outside control on inactive leaf. Door closer is required on both leaves. No. 4421 split astragal required.

A-3231

**ENTRANCE AND EXIT,
ONE LEAF ACTIVE**
Outside operation of both leaves by pull handle when vertical rods are retracted. By key and lever handle when not retracted. Door closers required on both leaves. No. 4421 split astragal required.

OUTSIDE CONTROLS



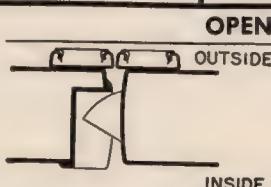
NO OUTSIDE CONTROLS

PULL HANDLE CYLINDER

PULL AND CYLINDER

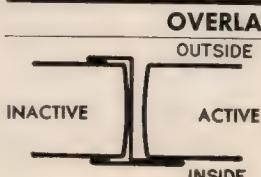
**PULL, THUMB-
PIECE AND CYLINDER**

**PULL, CYLINDER
AND LEVER
HANDLE**



OPEN BACK STRIKE

OPEN BACK STRIKE No. A75
is used on double doors with combination Anti-Panic Devices and Split Astragal No. 4421 to make both leaves active to exit traffic.



OVERLAPPING ASTRAGAL

No. 4411 is used with Anti-Panic Devices where the inactive leaf is used only in emergency. Cannot be used with Double Vertical Rod Devices or No. A-75 Open Back Strike.

Rim type panic devices are stocked in Chicago. Panel doors and standard 5½" depth frames all prepared for rim devices furnished from company warehouses. Devices for doors larger than 3870 leaf size on special order. Stocked in US10—Dull Bronze and US28—Aluminized Aluminum.



RIM TYPE PANIC DEVICES



EXIT ONLY

No outside controls. Closer optional.

A-50



ENTRANCE AND EXIT

Outside operation by pull handle only when latch is held retracted. Door closer is required.

A-51



ENTRANCE AND EXIT

Outside operation by pull handle only when latch is held retracted. By key when latch bolt is not retracted. Door closer required.

A-52



ENTRANCE

A-62

Outside operation by pull bars when latch bolt is held retracted. By key and pull bar when latch is not retracted. Door closer required.

A-61

Same as above except no key operation outside.

OUTSIDE CONTROLS



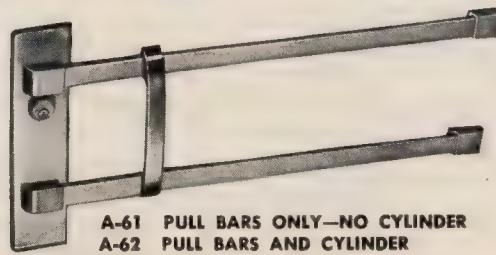
NO
OUTSIDE
CONTROLS
A-50



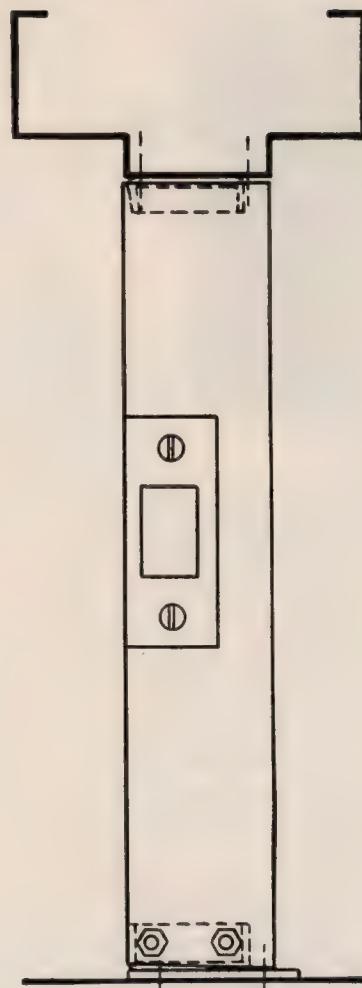
PULL
HANDLE
ONLY
A-51



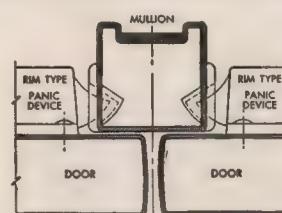
PULL
HANDLE AND
CYLINDER
A-52



A-61 PULL BARS ONLY—NO CYLINDER
A-62 PULL BARS AND CYLINDER



REMOVABLE MULLION



STEEL REMOVABLE MULLION NO. A-65 size 2½" x 2½" can be furnished for double swing doors using rim panic devices on both leaves. The Ceco No. A-65 Mullion is easily removed when a full double door opening is desired. Provides protection for the latch bolt so that no instrument can be inserted between the latch and strike plate. Each door opens independently of one another and affords two way traffic. Full weather protection is provided at meeting of doors. No astragal is required.

INSIDE OPERATIONS ON ALL ANTI-PANIC DEVICES

The purpose of anti-panic devices is to provide rapid exit, at all times, by pushing the inside cross-bar. They cannot be locked on the inside. They are always used on swing out doors. Latch bolts can be held retracted by dogging down cross-bar with the dogging key making the door push and pull operation, requiring door closers.

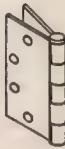
HINGES - CLOSERS - SURFACE BOLTS - FLUSH BOLTS



FULL MORTISE HINGES
FOR PRESSED METAL FRAMES

PLAIN BEARING HINGES

2110 Normally used on low frequency doors.
Do not use on doors with closers, use ball bearing hinges.
*No. 2110-USP (Steel—Paint)
*No. 2110-US10 (Steel — Bronze Plate)
No. 2110-LS (Steel—Aluminum)
No. 2110-US26D (Steel—Chrome Plate)



2112-2212 **TWO BALL BEARING HINGES** are recommended on doors of average to high frequency.

*No. 2112-USP (Steel—Paint)
*No. 2112-US10 (Steel — Bronze Plate)
No. 2112-LS (Steel—Aluminum)
No. 2112-US26D (Steel—Chrome Plate)
*No. 2212-US10 (Bronze)
No. 2212-US26D (Bronze—Chrome Plate)



2114-2214 **FOUR BALL BEARING HINGES** are recommended for use on high frequency doors, entrances, locker rooms, etc.

*No. 2114-USP (Steel—Paint)
*No. 2114-US10 (Steel — Bronze Plate)
No. 2114-LS (Steel—Aluminum)
No. 2114-US26D (Steel—Chrome Plate)
*No. 2214-US10 (Bronze)
No. 2214-US26D (Bronze—Chrome Plate)



The above hinges are interchangeable and reversible and are hinge manufacturers standard of quality $4\frac{1}{2}'' \times 4\frac{1}{2}''$ full mortise regular weight templated, packed with screws and hinge closing plate. Three hinges are used on doors up to $7'-6''$ high, four hinges on doors $7'-6''$ to $10'-0''$ high.

Non-Removable Pin Hinges can be furnished on order. Suffix hinge number with letters NRP (2310NRP-USP). NRP hinges have a set screw in barrel inaccessible when door is closed.



HALF MORTISE HINGES
FOR STRUCTURAL STEEL FRAMES

PLAIN BEARING HINGES

2310 Normally used on low frequency doors. Do not use with door closers.
*No. 2310-USP (Steel—Paint)
*No. 2310-US10 (Steel — Bronze Plate)
No. 2310-LS (Steel—Aluminum)
No. 2310-US26D (Steel—Chrome Plate)



2312 **TWO BALL BEARING HINGES** are recommended for use on average to high frequency doors.

*No. 2312-USP (Steel—Paint)
*No. 2312-US10 (Steel — Bronze Plate)
No. 2312-LS (Steel—Aluminum)
No. 2312-US26D (Steel—Chrome Plate)



2314 **FOUR BALL BEARING HINGES** are recommended for high frequency doors.

*No. 2314-USP (Steel—Paint)
*No. 2314-US10 (Steel — Bronze Plate)
No. 2314-LS (Steel—Aluminum)
No. 2314-US26D (Steel—Chrome Plate)



*Full mortise and half mortise hinges stocked in company and/or Chicago warehouses.

Half Mortise Hinges are furnished for doors with structural frames. Hinge manufacturers standard of quality $4\frac{1}{2}'' \times 4\frac{1}{2}''$ regular weight and are packed with screws and hinge closing plates.

Half Mortise Hinges are interchangeable and fit the standard hinge mortise in doors, and are reversible.

DOUBLE ACTING

No. 22 and
No. 23



SINGLE ACTING

No. 18 and
No. 19

FLOOR CHECKING HINGES
SINGLE AND DOUBLE ACTING

No. 22 (Gov. No. 3510-I)

DOUBLE ACTING FLOOR CHECKING HINGE for use on interior doors size 3470 or smaller, on exterior doors 2870 or smaller.

No. 23 (Gov. No. 3510-11)

DOUBLE ACTING FLOOR CHECKING HINGE for use on interior doors size 4070 or smaller, on exterior doors 3470 or smaller.

No. 18 (Gov. No. 3520A-II)

SINGLE ACTING FLOOR CHECKING HINGE for use on interior doors size 3470 or smaller. On exterior doors size 2870 or smaller.

No. 19 (Gov. No. 3520A-III)

SINGLE ACTING FLOOR CHECKING HINGE for use on interior doors size 4070 or smaller. On exterior doors 3470 or smaller.

FLOOR CHECKING HINGES are hydraulic piston torsion spring type, furnished with top pivot and cement case. Can be used with or without thresholds. Furnished in **Dull Bronze (US10)**, or **Dull Chrome (US26D)**.

Furnished on special order only. Doors and frames requiring floor checking hinges manufactured on special order.

Manufactured by Shelby Hinge Company.



TOP BOLT



BOTTOM BOLT

SURFACE BOLTS

No. 4001 - US2C 8" Bottom Bolt Steel Cadmium Plated. For all doors.

No. 4001 - US10 8" Bottom Bolt Steel Bronze Plated. For all doors.

No. 4002 - US2C 8" Top Bolt Steel Cadmium Plated. For doors up to 7'-0" high.

No. 4002 - US10 8" Top Bolt Steel Bronze Plated. For doors up to 7'-0" high.

No. 4003 - US2C 20" Top Bolt Steel Cadmium Plated. For 8'-0" high doors.

No. 4004 - US2C 44" Top Bolt Steel Cadmium Plated. For 10'-0" high doors.

No. 4011 - US10 8" Bottom Bolt Solid Bronze. For all doors.

No. 4012 - US10 8" Top Bolt Solid Bronze. For doors up to 7'-0" high.

No. 4021 - US28 8" Bottom Bolt Solid Aluminum. For all doors.

No. 4022 - US28 8" Top Bolt Solid Aluminum. For doors up to 7'-0" high.

*Surface bolts stocked in company warehouses. US26D (dull chrome) finish is fabricated to order.

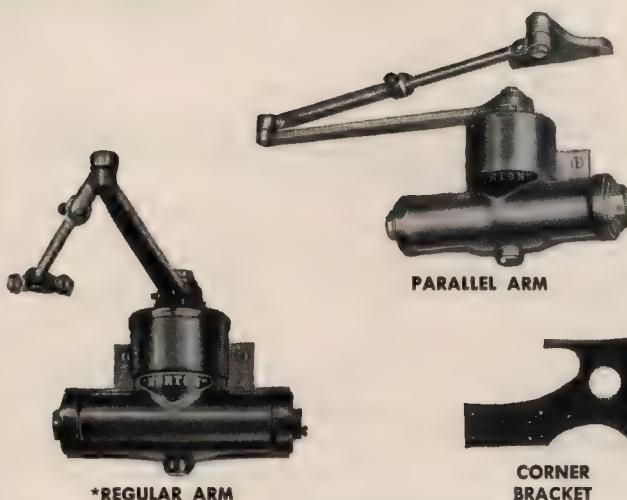
FLUSH EXTENSION BOLT



No. 194 Flush extension bolts are used on the top and bottom of inactive leaf of double swing doors. Normally used in pairs for maximum security. Singular use not recommended. Lever type operation permits positive action and affords a concealed appearance when doors are in the closed position. Ordering example: 2-194-US10.

FLUSH BOLTS FURNISHED ON SPECIAL ORDER.

Available in US10, US28 and US26D Finishes. Doors requiring flush extension bolts are fabricated to order. Standard 5 1/2" depth frames from company warehouses.



PARALLEL ARM

*REGULAR ARM

CORNER
BRACKET

LIQUID DOOR CLOSERS



REGULAR ARM



HOLD OPEN ARM



FUSIBLE LINK ARM

Ball and Socket construction at Knuckle. No hold open device.

Friction type. Adjustable to hold door open at any angle from 0° to 100°.

Hold open arm with fusible link release at 160° F., allowing door to close.

Door closers are liquid checking, rack and pinion type, with flat motor clock spring. Reversible, standard finish Bronze (US10). Corner brackets used to mount closers on inside of swing out exterior doors. Doors subject to strong drafts should have next larger size closer than shown in table below. Available in aluminum finish.

Parallel arm closers are designated by suffixing (PA) after the closer number. Example: 3031 PA. Corner brackets are never used with this type closer. Parallel arm closers are so designed as to replace closer with corner bracket when required. Not stocked.

CECO NUMBER	DOOR LEAF SIZES		GOV. NO.	MFG'S. NO.
	NUMBER	TYPE OF ARM		
*3031	REGULAR ARM		2668-2868	2668
*3032	HOLD OPEN ARM		3068-3468	2868
3033	FUSIBLE LINK ARM		2670-3070	2670
			2870	2870
*3034 CORNER BRACKET FOR ABOVE CLOSERS				
*3041	REGULAR ARM		3470	3070
*3042	HOLD OPEN ARM		3870	3470
3043	FUSIBLE LINK ARM		4070	3870
			4080	
*3044 CORNER BRACKET FOR ABOVE CLOSERS				
*3051	REGULAR ARM			
*3052	HOLD OPEN ARM		50100	4070
3053	FUSIBLE LINK ARM			4080
				V
*3054 CORNER BRACKET FOR ABOVE CLOSERS				
3061	REGULAR ARM			
3062	HOLD OPEN ARM			
3063	FUSIBLE LINK ARM		50100	VI
				6
3064 CORNER BRACKET FOR ABOVE CLOSERS				

*Closers stocked in company warehouses in bronze (US10) finish. Aluminum finish available on special order.

MISCELLANEOUS HARDWARE - LOUVERS - ASTRAGALS - VISION LIGHTS



OVERHEAD DOOR HOLDERS

No. 4101 Slide action overhead door holder. Spring shock absorber stops door at maximum position of 90°. Quarter turn of control handle disengages hold-open action. Not reversible.

No. 4111 Arm action overhead door holder. Spring shock absorber stops door at maximum opening position of 90°. Quarter turn of control handle disengages hold-open action. Not reversible.

No. 4121 Slide action economy overhead door holder spring shock absorber. Stops door at maximum position of 90°. Hold-open action can be readily disengaged.

OVERHEAD DOOR HOLDERS NOT STOCKED.

DOOR STOPS AND BUMPERS



***No. 4061 FLOOR TYPE HOLDER AND BUMPER** Door Bumper with Manual hold-open feature. Cannot be held open unintentionally. Attached to door in field with thru-bolts. Attached to floor with expansion shield. Finishes Dull Bronze (US10) Aluminum (US28).

***No. 4062 PLUNGER TYPE DOOR HOLDER** Plunger Type Door Holder holds door open at any angle. Throw of bolt variable to 1 1/4". Rubber shore grips door firmly. 6" high. Finishes Dull Bronze (US10) Aluminum (US28).

***No. 4063 WALL BUMPER** Wall Type Door Bumper. Fastened to wall with wall expansion shields. 3 1/4" long 2" Base dia. Finishes Dull Bronze (US10) Aluminum (US28).

***No. 4064 FLOOR BUMPER** Floor Type Door Bumper fastened to floor with expansion shield. 1" high 2" Base dia. Finishes Dull Bronze (US10) Aluminum (US28).

***No. 4065 WALL BUMPER AND HOLDER** Wall Type Bumper that incorporates a door holder. 3 1/2" long 2 1/2" Base dia. Fastens to wall with expansion shield.

***No. 4066 FLOOR TYPE BUMPER AND HOLDER** Automatic Door Holder and Bumper, pull-release. Attached to door in field with thru-bolts. Strike attached to floor with expansion shields. Finishes Dull Bronze (US10) Aluminum (US28).

*All door stops and bumpers in US10 or US28 finishes are stocked in company and/or Chicago warehouses. US26D (Dull Chrome) finish door stops and bumpers are fabricated to order.



KICKPLATES

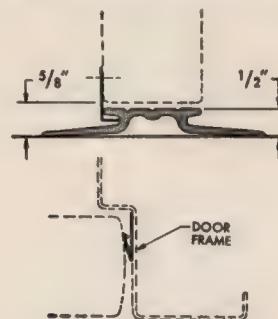
***No. 4301** Bronze Kickplate 6" high, .050" thick, width to suit door. Finish Bronze (US10).

***No. 4311** Aluminum Kickplate 6" high, .050" thick, width to suit door. Finish Alumilited Aluminum (US28).

***No. 4321** Plastic Kickplate 6" high and 1/8" thick, in width to suit door. Furnished in color Black only.

*Kickplates stocked in company and/or Chicago warehouses in US10 or US28 finishes. Plastic Kickplates stocked in black only.

WEATHERSTRIP AND THRESHOLD KIT



***No. 4221** Thresholds are 4" wide and 1/2" high. Available in bronze (US10) or aluminum (US28) finish. Hook strip and spring type weather-strip included with necessary attachment screws.

Doors 3070 or smaller use #4221-3070. Doors 3870 or smaller use #4221-3870. Double doors 6070 or smaller use #4221-6070. Double doors 7470 or smaller use #4221-7470. Larger sizes on special order.



No. 4201-4211 — THRESHOLDS

***No. 4201 — Bronze Threshold**

***No. 4211 — Aluminum Threshold**

Thresholds are 4" wide and 1/2" high corrugated. Furnished drilled with rawl plugs and attachment screws.

Furnished slightly larger than door opening width for accurate cutting in field to fit.

*Thresholds stocked in company and/or Chicago warehouses in US10 or US28 finishes.



JALOUSIE DOOR

Jalousie doors are now available on special order to meet popular demand for commercial locations. Aluminum jalousie window is fitted into the Ceco "FG" type steel door (see page 4-d).

Jalousie doors furnished complete with glass and screen. Jalousie operated with roto-operator located at approximately knob height. Furnished for 6'-8" or 7'-0" high doors only, and any width door leaf up to 3'-8", single or double swing. Shipped with jalousie glass and screen packed separately for field assembly. Furnished on special order only.

Cannot be furnished with anti-panic devices and/or push and pull bar sets.



STAMPED LOUVER

No. 4601 Fixed Slot Louver for Panel or Flush type doors No. 16 Gauge

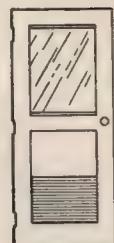
* No. 4601-12 12" x 12". Free Air 37 sq. in.

* No. 4601-19 19" x 12". Free Air 59 sq. in.

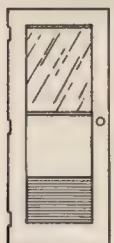
* No. 4601-24 19" x 24". Free Air 118 sq. in.

* Louvers in standard sizes as shown above are stocked in company or Chicago warehouse.

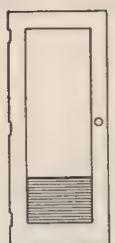
Air Condition Type Doors



PANEL
DOOR
GRILLE
TYPE
A-1



FLUSH
DOOR
GRILLE
TYPE
A-1



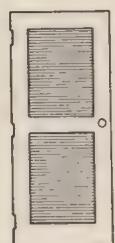
FLUSH
DOOR
GRILLE
TYPE
A-1



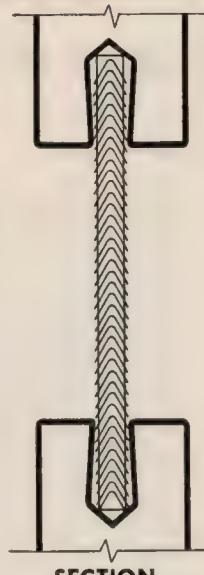
PANEL
DOOR
GRILLE
TYPE
A-2



FLUSH
DOOR
GRILLE
TYPE
A-2



PANEL
DOOR
GRILLE
TYPE
A-3



SECTION

Ceco doors with air-conditional louvers are now available on special order. Louvers are manufactured by Barber-Coleman. They are sight-tight, steel $\frac{3}{8}$ " thick with $\frac{1}{8}$ " fin spacing. Vertical stiffener ribs on 1" centers. This grid-type construction provides maximum free air area (81.5%) with more than enough strength to withstand daily use and abuse. Louvers furnished installed in doors only. Not furnished separately. Doors with air conditioning louvers furnished on special order only. Louvers are not removable.

DOOR SIZES	FREE AIR SPACE		
	A-1	A-2	A-3
2668	232 Sq. In.	464 Sq. In.	928 Sq. In.
2868	256 Sq. In.	512 Sq. In.	1024 Sq. In.
3068	305 Sq. In.	610 Sq. In.	1220 Sq. In.
3468	354 Sq. In.	708 Sq. In.	1416 Sq. In.
2670	232 Sq. In.	464 Sq. In.	990 Sq. In.
2870	256 Sq. In.	512 Sq. In.	1093 Sq. In.
3070	305 Sq. In.	610 Sq. In.	1302 Sq. In.
3470	354 Sq. In.	708 Sq. In.	1511 Sq. In.
3870	403 Sq. In.	806 Sq. In.	1720 Sq. In.

A-1 Type Grille (for Panel and Flush doors) are 15" in height. The width varies with the door leaf size.

A-2 Type Grille (for Panel and Flush doors) are 30" in height. The width varies with the door leaf size.

A-3 Type Grilles (for Panel doors only) upper and lower grille in 6'-8" high doors are 30" in height. Upper grille on 7'-0" high doors is 34" in height. Width varies with door leaf size.

ORDERING INFORMATION

When ordering air condition type doors always prefix door number with Letter (A). Example:

APC-3070G, and specify type grille required.

APC-3070G indicates as follows:

A: Air Condition Door

C: Cylindrical Lock Preparation

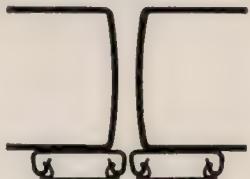
G: Glazing Required

P: Panel Design

3070: Door size



* 4411



* 4421



* 4801



4811

No. 4411 OVERLAPPING ASTRAGALS are used on double doors with one leaf inactive. Always attached to active leaf. Astragals are mortised or cylindrical or mortised lock strikes as required. Do not use on doors with both leaves active. Rolled No. 16 gauge steel.

* Stocked in warehouses.

No. 4421 SPLIT ASTRAGALS are used on double doors in exterior walls that have both leaves active. They are horizontally adjustable to reduce operating clearance to a minimum. Attachment screws are concealed by continuous cover plate. Always attached to outside of door. Astragal No. 18 gauge, cover, No. 22 gauge rolled steel.

* Stocked in warehouses.

No. 4801 VISION LIGHT 10" x 10" For Panel Type Doors

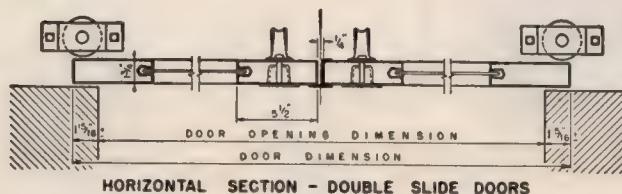
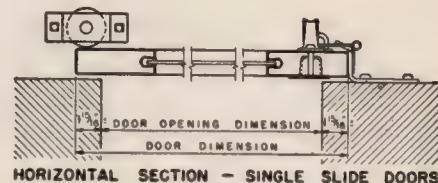
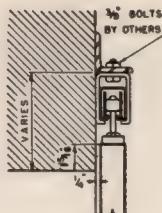
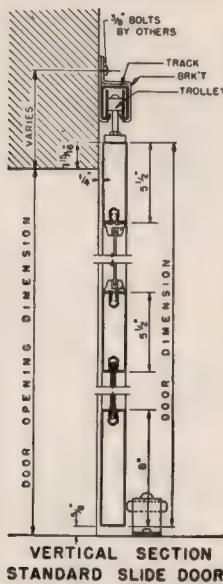
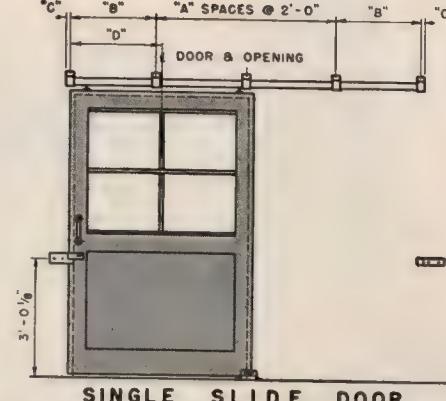
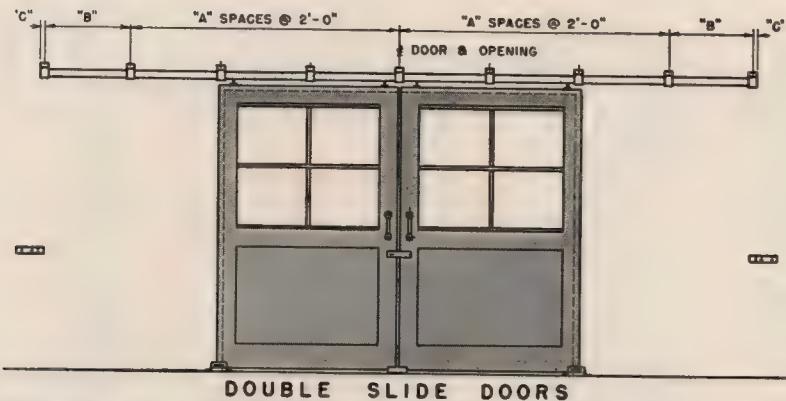
No. 4811 VISION LIGHT 10" x 10" For Flush Type Doors

Vision lights are furnished unglazed with $\frac{3}{8}$ " glass rebate for $\frac{1}{4}$ " plate or wire glass. Can be used in Underwriters "B" Labelled Doors in "B", "C" and "E" locations.

* Vision light #4801 is stocked in company warehouses.

Slide
Special

Hollow Metal Panel Slide Doors



VERTICAL SECTION
STANDARD SLIDE DOORS

HORIZONTAL SECTION - DOUBLE SLIDE DOORS

SINGLE SLIDE DOORS				SINGLE SLIDE DOORS						
DOOR NUMBER	DOOR SIZE		DOOR OPENING		DOOR NUMBER	TRACK LENGTH	A	B	C	D
	WIDTH	HEIGHT	WIDTH	HEIGHT						
PS-3070	2'-11 1/16"	6'-11 1/4"	2'-8"	6'-10"	PS-3070	1-6'-0"	1	1'-11"	1"	1'-4 1/4"
PS-4080	3'-11 1/16"	7'-11 1/4"	3'-8"	7'-10"	PS-4080	1-8'-0"	2	1'-11"	1"	1'-11 1/4"
PS-50100	4'-11 1/16"	9'-11 1/4"	4'-8"	9'-10"	PS-50100	1-10'-0"	3	1'-11"	1"	2'-5 1/4"

DOUBLE SLIDE DOORS				DOUBLE SLIDE DOORS						
DOOR NUMBER	DOOR SIZE		DOOR OPENING		DOOR NUMBER	TRACK LENGTH	A	B	C	D
	WIDTH	HEIGHT	WIDTH	HEIGHT						
PS-6070	5'-11 1/8"	6'-11 1/4"	5'-8"	6'-10"	PS-6070	2-6'-0"	2	1'-11"	1"	-----
PS-8080	7'-11 1/8"	7'-11 1/4"	7'-8"	7'-10"	PS-8080	2-8'-0"	3	1'-11"	1"	-----
PS-100100	9'-11 1/8"	9'-11 1/4"	9'-8"	9'-10"	PS-100100	2-10'-0"	4	1'-11"	1"	-----

Doors are always handed when facing the exterior side of the door and the outside of the opening.

Doors in interior walls are generally handed when facing the outside of the door and the corridor side, or the larger room side of the wall.

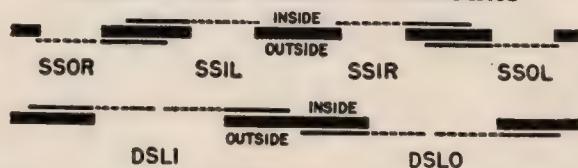
Digits to the left of the dash indicate nominal door size. Letter "M" indicates both panels are metal. Letter "G" indicates lower panel is metal and upper panel glass. Last digits indicate the number of lights into which the panel is divided.

Hollow Metal Panel Slide Doors are fabricated to the same specifications as Panel Swing Doors.

Slide Doors are furnished complete with hardware including track, brackets, trolleys, guide roller, pulls, hasp and staple. All attachment bolts furnished except wall bolts. Frames and track flashing not furnished.

When ordering always give complete number. For example: PS-3070-G2 SSIL or PS-6070-M2 DSSI. Slide doors are manufactured to order—not stocked.

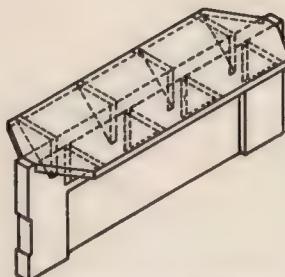
HAND AND SLIDE DIAGRAMS



When ordering slide doors always give complete number. For example: PS-3070-G2 SSIL or PS-6070-M2, DSLO.

Special Panel and Flush Doors

dutch doors



Dutch Doors are furnished in Panel or Flush Type on order. Prepared for cylindrical or mortise type locks as required. Furnished with or without shelf as required. Can be furnished in double swing or with one leaf of double swing.

FURNISHED IN 7'-0" HEIGHT DOORS ONLY.

MAXIMUM LEAF WIDTH 3'-4".

Upper part of door can be furnished with metal panel, prepared for glazing or with 10" x 10" vision light in metal panel.

Dutch doors cannot be Underwriters Labelled.

Specify hinges, surface bolts and locks for Dutch Doors separately.

monorail cutouts



Monorail Cutouts are furnished in Panel Doors on order, to fit monorail. Cover plates are furnished not contoured, to be cut in field to accurately fit monorail.

truckng doors



Trucking Doors are furnished on special order. Lower part of door is No. 12 gauge steel sheets on both sides. Spring Bumpers attached to door at height to fit hand trucks.

Hinges (No. 2511) are extra heavy duty cast malleable, 16" high double acting. Can be furnished with rubber weatherstrips on both leaves for exterior doors.

Furnished with or without slide bolts for locking from inside only. Cannot be furnished with key locks for entrance use.

Furnished complete with all hardware for mounting in structural frames by others. Pressed Steel Frames cannot be used with Trucking Doors. Complete frame preparation details furnished on request for preparing structural frames.

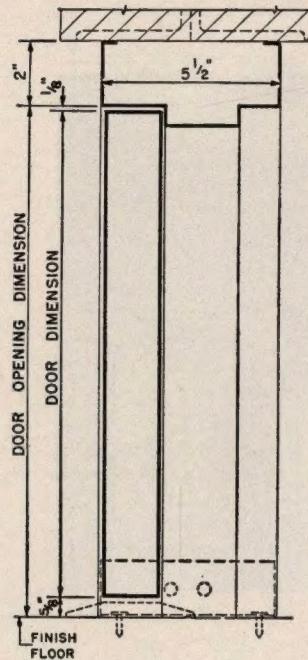
Furnished in heights up to 8'-0". Width of doorway should be twice the width of hand trucks used. Doors up to 6070 have two hinges per leaf. Doors over 6070 to 7470 have three hinges per leaf. Doors over 7470 to 8080 have (4) four hinges per leaf.

Not furnished larger than 4'-0" x 8'-0" leaf size.

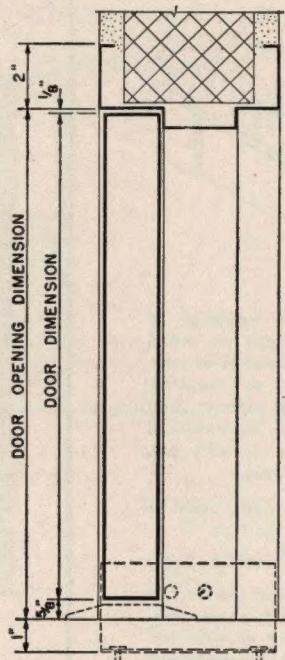
**DO NOT USE TRUCKING DOORS WITH
MOTORIZED EQUIPMENT**

Standard Details

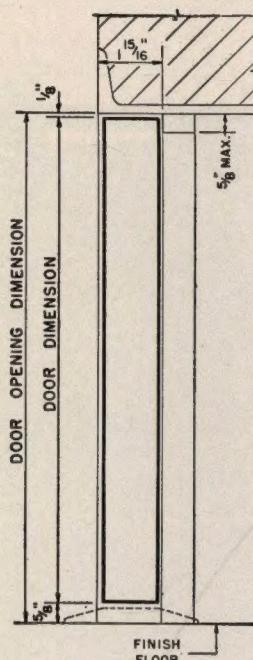
hollow metal flush and panel doors



ADJUSTABLE SILL
ANCHOR ATTACHED
TO FINISH FLOOR.



ADJUSTABLE SILL ANCHOR
EXTENDED 1" BELOW
FINISH FLOOR.

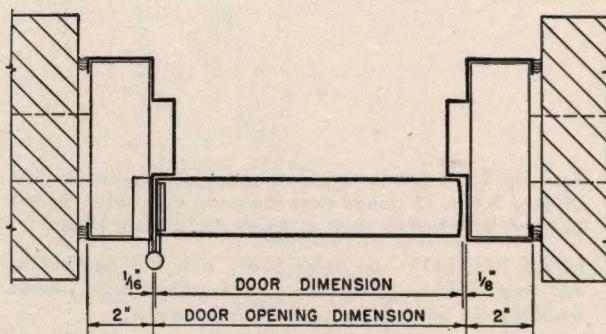


**USE OF THRESHOLDS
OPTIONAL**

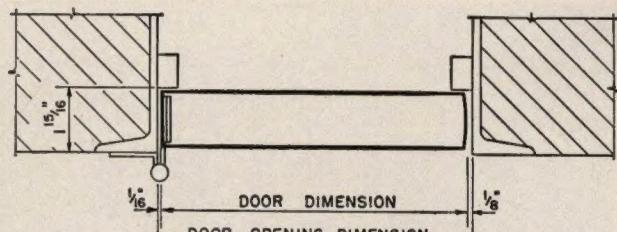
PRESSED STEEL FRAMES

**4" TILE
PARTITION**

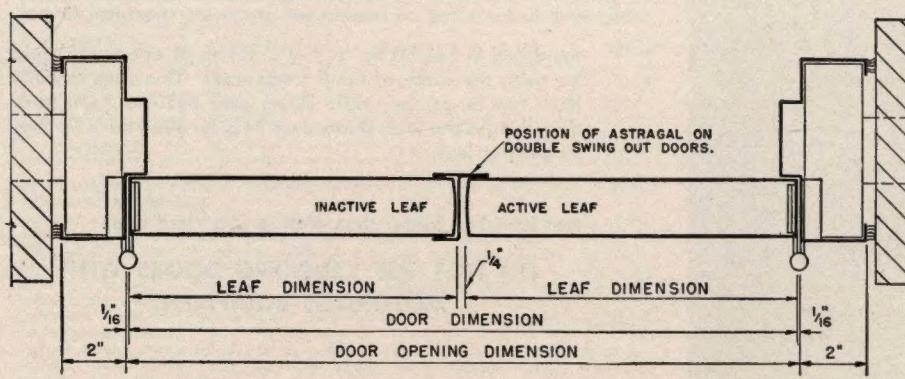
**STRUCTURAL FRAME
FRAME AND WALL
AS SPECIFIED**



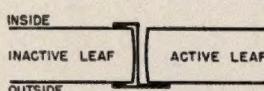
SINGLE SWING DOOR WITH PRESSED STEEL FRAME



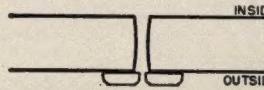
**SINGLE SWING DOOR WITH
STRUCTURAL FRAME**



DOUBLE SWING DOORS WITH PRESSED STEEL FRAME
DOUBLE SWING OUT SHOWN



POSITION OF ASTRAGAL ON DOUBLE SWING IN DOORS. OVERLAPPING ASTRAGALS ALWAYS ON INACTIVE LEAF.



SPLIT ASTRAGAL REQUIRED ON
EXTERIOR DOORS WHEN BOTH
LEAVES ARE ACTIVE.

Specifications

General

All steel doors, door frames and hardware shall be as manufactured and furnished by Ceco Steel Products Corporation. Doors shall be Standardized Hollow Metal, Flush and Panel types.

Door hardware shall be furnished by the door manufacturer with doors mortised, machined and prepared for hardware attachment.

2. Door Construction

General—All doors shall be $1\frac{3}{4}$ " thick, with stiles and rails formed from No. 16 gauge steel sheets into rectangular tubes with integral rebates; intermittently welded inside the rebates for structural rigidity. Stiles, top rails and center rails shall be $5\frac{1}{2}$ ". Bottom rails shall be 8" high. Lock stiles shall be formed for $\frac{1}{8}$ " jamb clearance.

Door corners shall be mitred, reinforced, continuously face-welded and ground smooth; center rails shall be continuously face-welded to stiles and ground smooth.

Doors shall present the same appearance on both sides except that glazing bead and glazing stop screws shall always be on the inside.

Glazing rebates in moldings and muntins shall be $\frac{3}{8}$ " wide for installation of $\frac{1}{4}$ " thick glass.

Moldings, glazing beads, muntins and muntin glazing stops shall be No. 18 gauge steel. Muntins, where required, shall have stop screws on the inside of the door.

Doors shall be mortised for hinges and locks, and template prepared for other surface hardware, attached with through bolts, or with screws into reinforced, tapped holes. Hardware shall be attached to doors and frames with self-tapping screws or sheet metal screws.

Double doors shall have astragals if required. One piece overlapping astragals shall be No. 16 gauge. Two piece astragals shall be No. 18 gauge with No. 22 gauge cover plates.

Hollow Metal Flush Doors

Hollow Metal Flush Doors shall be manufactured as specified under "General" and shall have $1\frac{5}{8}$ " panels of two No. 18 gauge steel sheets with No. 18 gauge steel "Z" shape stiffeners spaced approximately 12" apart, between the two panels. Sound deadening material $\frac{1}{16}$ " thick shall be placed on the inside of the panel sheets.

Hollow Metal Panel Doors

Hollow Metal Panel Doors shall be manufactured as specified under "General" and shall have $\frac{3}{8}$ " thick panels of two No. 18 gauge steel sheets with insulating filler between. Lower panels shall be locked into rebates in stiles and rails when assembled. Upper panels shall have moldings to retain glass or $\frac{3}{8}$ " metal panels.

Underwriters Labelled Doors

Doors designated as $1\frac{1}{2}$ hour labelled doors shall carry Underwriters $1\frac{1}{2}$ hour label on the door and on the frame. Doors so designated shall have 10" x 10" vision light. Double doors shall have overlapping rolled steel astragal.

Both flush and panel doors and frames shall be constructed to meet Underwriters Laboratories specific approval according to current procedure for $1\frac{1}{2}$ hour fire rating.

Frames

Frames shall be formed from No. 16 gauge steel, with 2" face, $5\frac{1}{2}$ " depth and $\frac{5}{8}$ " integral stop. Frame corners shall be mitred. Hinge jambs mortised for hinges, lock jambs mortised for lock strike with mortises protected by

metal plaster guards. Frames are shipped knocked down.

Jambs shall be flush with finished floor, with floor anchors attached to jambs with bolts, to set on the finished floor, or 1" below the finish floor.

Patented rubber door silencers, air cushion type shall be furnished for strike jambs of single doors and for frame heads of double doors.

Frames shall be prepared for attachment of all required hardware. All hardware screw holes shall be reinforced. No hardware shall be attached to frames with self-tapping or sheet metal screws.

4. Hardware

Cylindrical Type Locksets and Latchsets shall be Heavy Duty or Standard Duty as designated by the lock numbers. The Heavy Duty Lockset has a steel, zinc plated cylindrical case. Dichromate Dip $2\frac{1}{16}$ " in diameter. The front shall be Wrought Bronze or Aluminum, $2\frac{1}{4}$ " x $1\frac{1}{8}$ " in size with a flat front. Latch bolt shall be solid brass with a $\frac{5}{8}$ " throw.

The Standard Duty Lockset has a steel, zinc plated cylindrical case. Dichromate Dip $2\frac{1}{16}$ " in diameter. The front shall be Wrought Bronze or Aluminum, $2\frac{1}{4}$ " x $1\frac{1}{8}$ " in size with a flat front. Latch bolt shall be solid brass with a $\frac{3}{8}$ " throw.

Mortised Type Locksets and Latchsets shall be manufacturers Heavy Duty Commercial Grade. Locks and mortise latches shall have armored fronts. Cases and caps shall be cast iron. Escutcheons, lock fronts, cylinder rings, strikes and knobs, shall be Wrought Bronze for locksets finished (US10) Dull Bronze and (US26D) Dull Chrome.

Locksets with (US28) alumilited aluminum finish shall have wrought aluminum trim. Dead-bolts, latch bolts, thumb turns, pull bars and handles shall be cast bronze (US10) Dull Bronze finish or (US26D) Dull Chrome finish. Cast aluminum on (US28) alumilited aluminum finish.

Latch bolts are Anti-Friction type with a $\frac{5}{8}$ " throw. Dead-bolts are cast bronze with a $\frac{3}{8}$ " throw.

Hinges shall be hinge manufacturers standard of quality $4\frac{1}{2}$ " x $4\frac{1}{2}$ " full mortise regular weight, templated, button tips, reversible, in steel or bronze, furnished with attachment screws. Hinges for structural frames shall be as above except half mortise type.

Closers shall be rack and pinion. Flat motor-clock type spring. Checking fluid non-evaporating non-gumming mineral oil of stabilized viscosity. Aluminum shell. Reversible. Standard finish Bronze (US10).

Other Hardware shall be as listed and described in current catalogs.

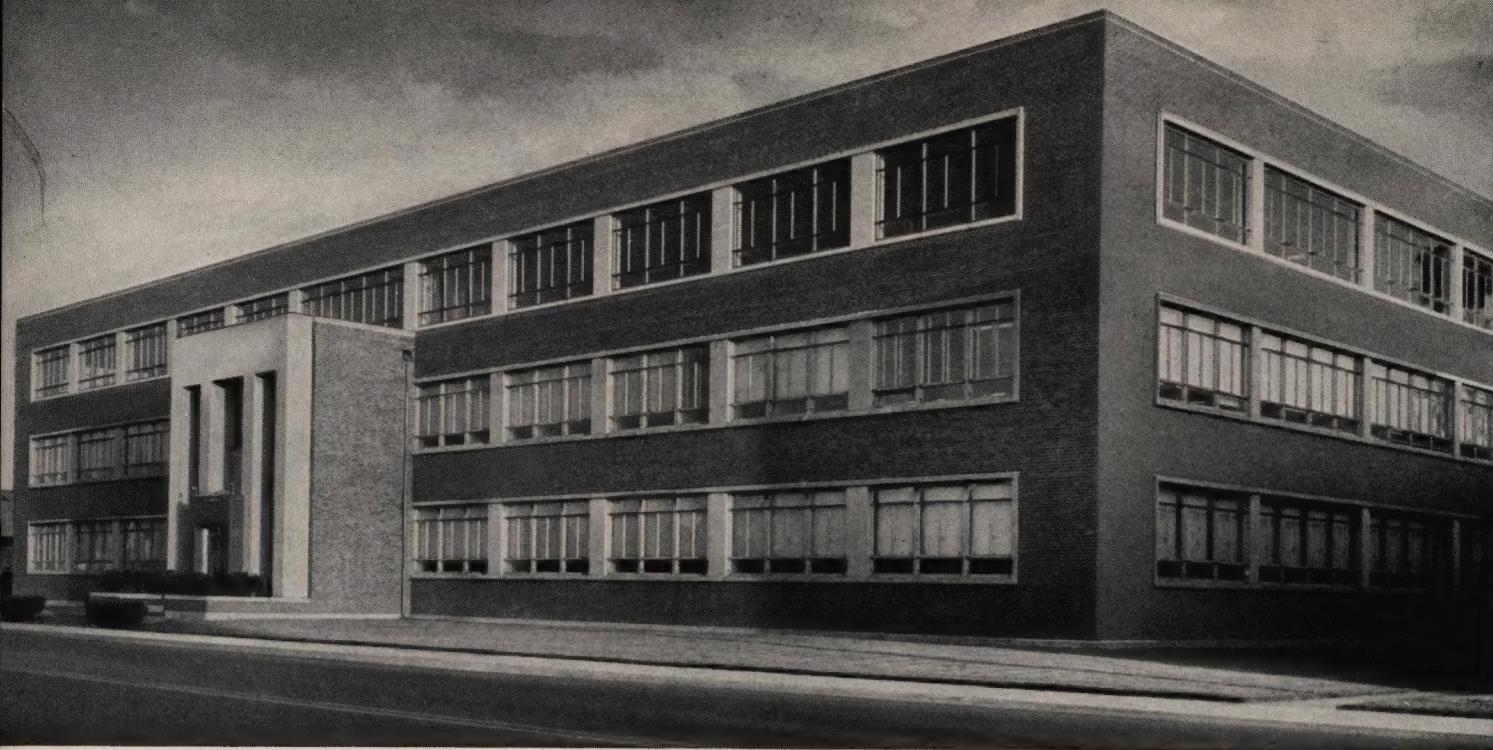
Slide Door Hardware shall be furnished, and shall include all necessary track, brackets, trolleys, door pulls, guides, and binders, and all hardware attachment screws. Wall bolts for attaching hardware to building shall be furnished by others.

5. Painting and Glazing

All doors and frames shall be bonderized and painted one coat rust inhibitive zinc chromate primer, neutral grey color, oven dried. All finish painting, glass and glazing, putty, mastic, and other necessary compounds are not furnished by Ceco Steel Products Corporation.

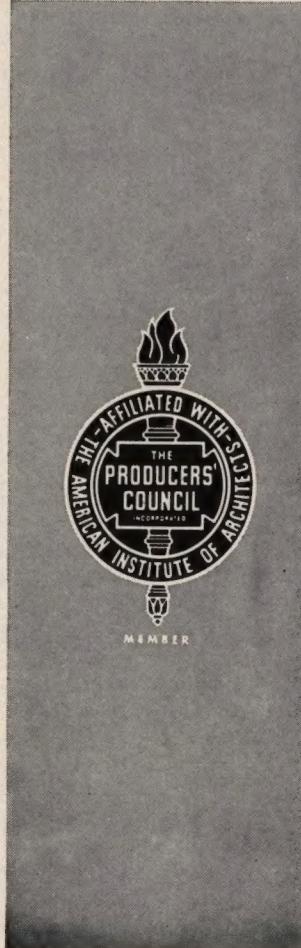
6. Shop Drawings

All doors, frames and hardware shall be as shown on shop drawings prepared by Ceco Steel Products Corporation and approved by the architect before fabrication is started.



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